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**EVENING GROSBEAKS**

**SET RECORD (Pg. 133)**

# Audubon



# magazine

**MARCH-APRIL 1950**

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# Audubon magazine

Volume 52 Number 2

Formerly BIRD-LORE

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*A bimonthly devoted to the protection and preservation of our native wildlife.  
Fifty-first year of continuous publication.*

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COVER: Photograph of evening grosbeaks by Hal. H. Harrison. During the evening grosbeak's periodic invasions of our eastern states it is attracted by sunflower seeds, one of its favored foods. It is also fond of the seeds of box-elder, a native American shade tree. Our eastern evening grosbeak was discovered in 1823 by Henry R. Schoolcraft and named *Hesperiphona vespertina vespertina* from a specimen collected at Sault Ste. Marie, Michigan.

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## Letters

### Audubon Hosts Introduce Unfamiliar Birds

On a trip west this past summer, I discovered one more advantage of being a member of the National Audubon Society, which I like to call, "The Audubon Fraternity."

When I left Connecticut I knew only two people west of the Mississippi River and they weren't interested in nature. So I wasn't sure how I was going to see and learn all I wanted to in the short time at my disposal.

I started birding at the California Audubon camp, where I had an excellent opportunity to learn not only about that region but to inquire about other parts of the West. When I left there I was given the addresses of members of various California branches of the National Audubon Society to whom I might turn for help. In this way, I not only met delightful people, but was taken or directed to wonderful places where I saw plants and birds completely new to me that otherwise I would not have known about, or wouldn't have been able to learn in the limited time that I had.

A two-day trip to Carmel, California, was enriched by contacting a member of the Monterey Peninsula Audubon Society and also by finding information in the library on the birds of that region and where and when to find them. In one day I added 15 new birds to my life list.

We are now working on a local bird list for our library so that strangers, interested in our birds and unfamiliar with them, can find help. Our project may suggest similar ones to other clubs throughout the country.

SALLY TATE

Westport Audubon Society  
Westport, Connecticut

### Sutton Admirer

I've been wanting to say how very much I appreciate and enjoy my *Audubon Magazine*—each page so full of interesting, good things—pictures and experiences.

And I do wish you'd tell George Sutton I was thrilled and fascinated with his "Baby Birds as Models" which appeared in the March-April 1949 issue. A while back George

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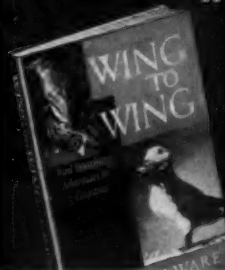
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## Audubon Field Notes

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April 1950 issue

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Sutton did us the honor of coming over to Bedford to give a talk at the schoolhouse where I was conducting a birdhouse building contest with prizes. This added fervor to our "grand finale" which I have not forgotten.

MISS STELLA LUCIA MANN

Bedford, Pennsylvania

### School Needs Magazines

Would you suggest to your readers that if they do not care to keep their *Audubon Magazines*, they could find no better use for them than to send them to the Berry Schools at Mt. Berry, Georgia? Also any good bird books or other worth-while nature magazines. Berry (which has both preparatory and college departments) is a remarkable school where young people who live in the southern mountain country are given an opportunity to earn their way through school with very little help. It has what is undoubtedly the largest school campus in the world, with almost 30,000 acres and all varieties of terrain, including a mountain, and their own farm where they raise livestock, and the vegetables, fruits, etc., which they use. It is an ideal bird sanctuary.

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Continued on Page 134

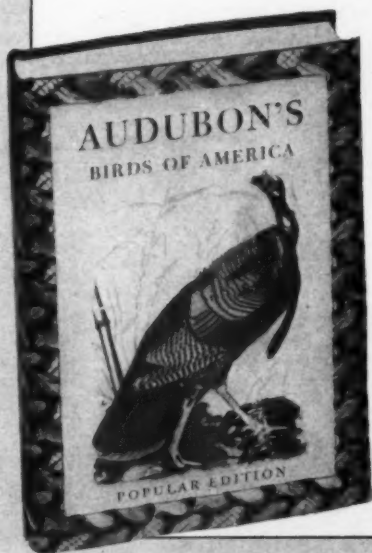
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# SONGS

from the sky

**Over the arctic moors of Iceland, most birds pour forth their songs while in flight.**

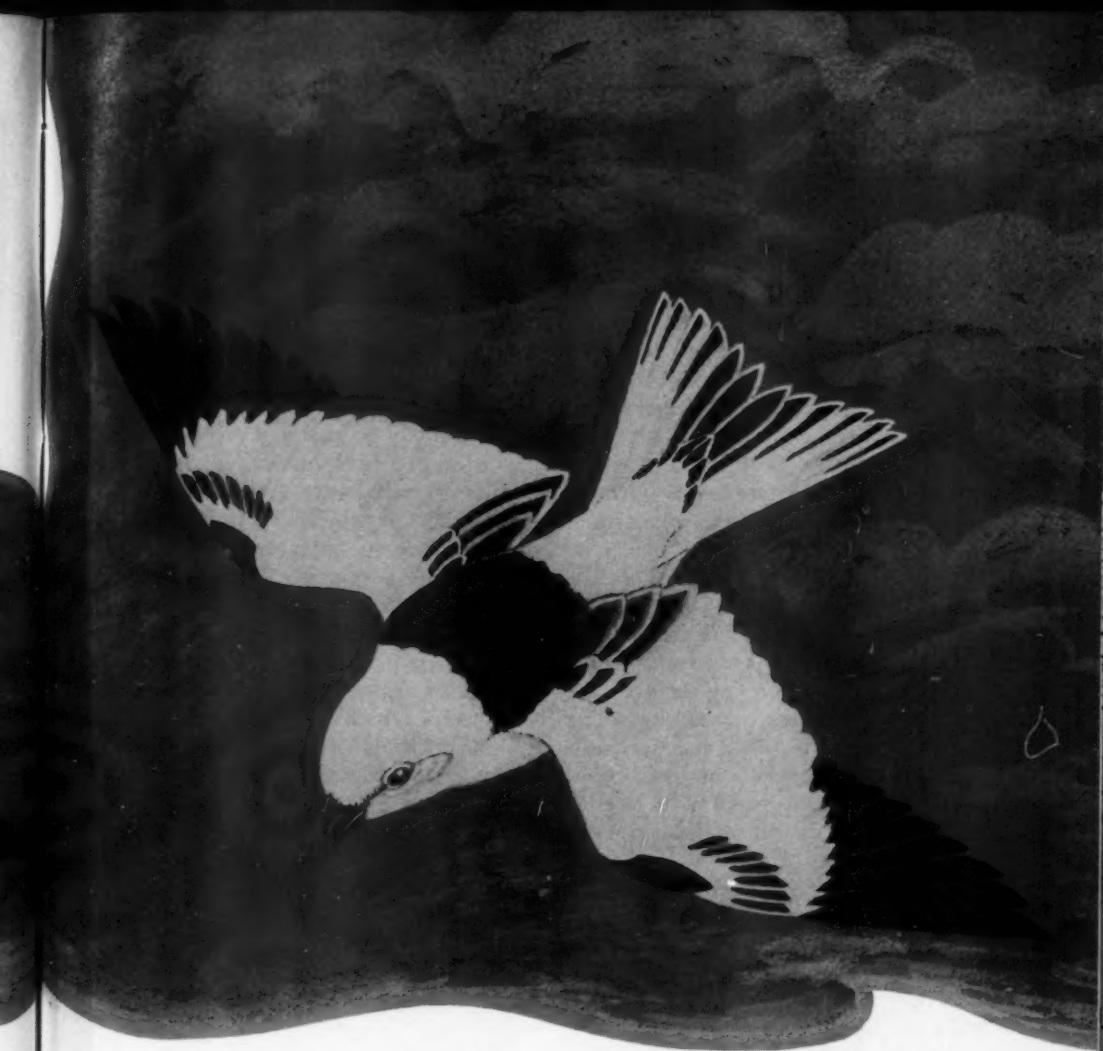
**By Edward A. Armstrong**

**Golden plover and snow hunting drawn by Robert Seibert.**

**N**EVER did I think that I should feel like a migratory bird making its first landfall at the end of an immense journey over the sea. I knew something of that feeling when, in June 1949, I flew from England to Iceland to study the birds of that arctic country. After some hours above the clouds, I looked out of the plane and, far below, through rifts in the woolly blanket, I suddenly saw the surf-fringed, indented coast of Iceland. I

*Photographs by the author, unless otherwise noted.*





would like to believe that the redwings, which spend the winter with us in Britain, feel just such a thrill when at last they sight land and descend to rest and to feed in the yet bare birch forests where they will nest and rear their young. But it would be fanciful to read my feelings into the heart of a bird. I must be content to know that I have followed the redwing, whimbrel and golden plover in their migratory journey without presuming that I can understand their experience.

Years ago I had been on a brief visit to Iceland, but to spend only two days in such a country is a tantalizing and not completely satisfying experience. Now I was at last able to make good my resolution to return once more to this land of limitless vistas, mountains, lakes and fiords, in order to study its birds and flowers. With me in the plane was my lightweight tent and all I needed to live out-of-doors wherever I could be nearest to the wild things which interested me most. Like a bird

(The author's camp was surrounded by snow-capped mountains.)



I would arrive in Iceland and, as nearly as possible, like a bird would I live.

To a visitor from Britain the great charm of Iceland is the sense of freedom you enjoy there. In England it is difficult to get away from roads, hedges and fences. Your feet are nearly always where many others have trodden before, but in Iceland a naturalist may walk for days without seeing another person or any sign of cultivation. There, birds which we have lost from the British Isles, such as the white-tailed eagle, may be seen. Others, such as the red-necked phalarope, which still breeds in a few places in Britain as a result of the efforts of conservationists, are common. It was good to find that the Icelanders are alive to the importance of preserving their heritage of wildlife. The strange lava plain at Thingvellir, where the oldest parliament in the world met for hundreds of years, is now a national park, and I was pleased to see a party of children on an excursion planting trees as an essential part of the day's activities. Once Iceland was clothed with forests but now few wooded areas remain. Only after many years and in favorable areas does the birch grow to such a size that an expanse covered by the trees can be called a forest.

As I recall those weeks of strenuous exploration, I see, again, extinct volcanoes and hot springs; snow-capped mountains and miles of tundra; mats

of oak-leaved, anemonelike *Dryas octopetals*, with white flowers dancing in the sun; cushions of pink moss-campion brightening the black lava plains, but, above all — birds — vehemently noisy and radiantly bright in the wonderful translucent arctic air.

Amidst all the varied impressions, one remains stamped more indelibly on my mind's eye than any other. Because it was impressed upon me again and again — by so many species — I see the vision of a bird dancing in the air, singing. Nearly every Icelandic bird, except the few which are at home in the birch scrub, engages in a song-flight.\* One may safely say that song-flight is characteristic of birds of the arctic tundra and moorland.

In Britain many birds sing from trees, fence-posts and stone walls, but there are species which also perform song-flights — warblers such as the white-throat, and waders such as the snipe. Of course, the skylark's song-flight is renowned wherever English poetry is read. In America, too, where the majority of birds sing from trees, shrubs, or fence-posts, bobolinks, meadowlarks and other birds delight our eyes and ears as they flutter skywards. But we must go north to find a region where this song-flight is almost universal among birds.

In Iceland the meadow pipit takes the place of the skylark. He is appropriately called "sun-climber" by the country people. As he mounts with sweet twittering and then descends, slackening his song to a slower tempo, he makes a valiant effort to emulate his more famous rival in singing, if not at heaven's gate, at least on the road thereto.

The wheatear mounts from a crag some 20 or 30 feet, notes tumbling

\* The English term, the opposite of our own expression, "flight song," means the same — a song delivered while the bird is on the wing.

When the faero snipe dives earthward, the rush of air through its tail feathers produces the bleating "song," a characteristic sound in spring on Iceland's tundra.



from his beak in a glorious medley as if he must say as much as possible while he is airborne, and there is a fine brandishing of mingled dark and white plumage as he turns and plunges down again. Although he has 24 hours of daylight to disport himself you had best be afoot early if you would see this display. So, too, with the display of another bird which looks black and white as he flies—the snow bunting, a bird which to me is the symbol of arc-

**The redwings that nest in Iceland's birch forests and winter in Britain are one of few Icelandic birds that sing from treetops.**

**The golden plover, almost invisible on its nest amid the mossy tundra, is a noisy, conspicuous bird on the wing.**



tic romance, clad as if snowflakes had whitened his wings. Two years before I had sought this bird in one of its few haunts in Britain—by the Wells of Dee in the Scottish Highlands, near the only place where snow lies from one winter to the next.

The globe-girdling golden plover is a very different bird on its breeding ground from that which we see on migration, feeding in the fields or flying in swift flocks along the shore. He wanders aloft, first with rapid wing-beats and then with lazy flapping, as when a film changes to slow-motion, and as he goes he cries "O dear! O dear! O dear!" again and again in a plaintive voice which suits the pained sentiments attributed to him. He cannot help his voice. He is telling the world in his own way, and potential rivals in particular, that certain acres of stony, mossy, Icelandic ground belong to him. Below, his mate, perfectly camouflaged in her greenish, golden plumage, sits amidst the alpine azalea and bearberry. Difficult as it is for human eyes to pick her out, the arctic skuas, which haunt the moor like sinister dark shadows, often find the nests. Empty, pierced eggshells here and there testify to their depredations.

The bird whose song-flight was most insistently thrust upon my notice was



the whimbrel, that small northern edition of the curlew. At no moment, by day or night, could I be sure that "Whimpering Willie," as I unkindly called the bird whose mate had her nest a few yards from my camp, would not proclaim his proprietary rights. Beginning with a few inflected, curlewlike notes as he flew overhead, he then gave a long series of plangent "pips" which, heard near at hand, sounded like an automobile siren. At a distance, curiously enough, the song reminded me of the clanging of cowbells in the Alps. Sometimes the bird would presage it with a slow repetition of a low fluting note like the mellow hoot of the brown owl.

A familiar note to a British naturalist, but none the less remarkable, was the bleating of the snipe, the "Airy Goat" of the Irish. First careening around high overhead the bird dives, spreading its tail feathers, and the air rushing through them creates a resonant drumming like one of the deepest notes of the clarinet. It amused me on several of the wet days, which are so frequent in Iceland, to see a bird making all flight motions that produce this strange song, yet not making a sound. Were the bird's feathers so wet that they would not vibrate normally as it plunged downwards?

Another Icelandic bird which makes instrumental music is the red-necked phalarope, the most fairylike of waterfowl. With a strange fluttering rattle the bird makes her wing-music. In this species the functions of the sexes are reversed. After the eggs have been laid, the male, more soberly attired than his mate, takes charge, incubating the eggs and tending the chicks when they hatch. Even the redwing, which has no sexual display-flight, makes wing-music of a sort. As he dashes again and again at your head



The male wheatear flies up and sings with a glorious fluttering of black and white plumage. Photograph by G. Bird.

while you bend over the nest, you hear a miniature roar as the air rushes through his wing feathers.

Perhaps the most striking song-flight of all is that of the snowy owl, a circumpolar bird which nests below the ice-capped peaks. Flying around he claps his wings, as, indeed, the short-eared owl also does in flight above the prairies and marshes of North America.

Seldom is the sky empty of a bird engaged in display-flight, and now that I am back home amidst the tamer beauty of the English countryside I miss the variety of calls which I became accustomed to hearing from the sky. Why this accentuation of aerial display and song in arctic and sub-arctic regions? The main function of song is defense of the breeding territory. It is many a bird's weapon in

psychological warfare. It serves to deter intruders without bloodshed. The territories of birds inhabiting tundra are large, for food is not as abundant as in milder regions and it is essential for a bird to proclaim his ownership of land far and wide. Therefore he patrols above his territory, announcing in his own peculiar tones his defiance of potential intruders. When he first occupied his territory, his song-flight served also to attract a mate, but long after she started to sit on her eggs, the aerial demonstrations continued.

The question of the extent to which a bird's territory has food value is a disputed matter. Some ornithologists maintain that, with many birds, establishing territory insures a source of food for the adults and their young. Other ornithologists deny this, but the problem is one which has to be studied for each species. Generalizations are dangerous, but it is reasonable to believe that there is a correlation between the comparatively large territories of these moorland birds and the necessity for the birds not to be too thick on ground where suitable food is scarce.

In defending its territory, or aggressively demonstrating so that no armed defense may be required, a bird makes itself as conspicuous as possible. It may

do so by song, movement, or by a combination of both. Where trees are absent and even outstanding crags may be few it is on the wing that a bird may make itself most conspicuous. So wherever there are wide expanses of treeless country—tundra, steppe, pampas or semi-desert—there you will find that song-flights are highly developed.

I realize more fully now than I did at the time that I was in Iceland, how these aerial displays add warmth and color to the northern landscape. In summer, above the bleak monotony of the moorland and lava fields, there is the warm contrast of life where a bird falls or floats through the sky, or flies with wing-beats, now slow like a giant butterfly, now fast as if it could not beat the air quickly enough. The hills and marshes, which must be intolerably silent through the long, dark arctic winter, now palpitate with the voices of the birds that are making the most of the short spring and summer.

Henceforth, in England, when by some estuary I hear the twitter of the whimbrel, or from the frozen ploughland the sad note of the golden plover, I shall be carried in thought back to Thingvellir and Hvalfjörður where the birds are singing their strange songs and making music over the moors of the Land of Frost and Fire.

---

## *The First Flowers of Spring*

"... When it is spring I walk in sheltered places, by wood and hedgeroad, to look for and welcome the first comers. Oh those first flowers so glad to be alive and out in the sun and wind once more—their first early ineffable spring freshness, remembrancers of our lost childhood, dead and lost these many dim and sorrowful years, now recovered with the flowers, and im-

mortal once more with spring's immortality!"  
—W. H. Hudson, "The Book of the Naturalist."

• • •

## **Lest We Forget**

"There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace."—Aldo Leopold, "A Sand County Almanac."





**HOW LONG  
IS WINTER ?**





By Alan Devoe

THERE is a rip-roaring sleet-storm going on this morning. It follows on a bad one last week, when big pines toppled and white birches snapped under the glaze, and there is every likelihood that next week there will be some more sleet or perhaps a blizzard or at least a series of murderously sub-zero days. These country acres where I do my bird-watching and mammal-snooping and general nature-considering are in upstate New York mountain country, just over the line from Berkshire County, Massachusetts. Summer visitors, when they begin blowing on their fingers along about Labor Day and start looking up trains for the city, are given to saying "... but how do you stand the *winters*? Think of it! A solid six months or more of winter. It must be *deadly*." If the summer people reckon the winter at six months, our grimmer natives, mind-

ful of snows sometimes in late October and snows sometimes in early May, reckon the winter at *eight* months of the year. They take somewhat the view of that old Vermonter who is said to have stated that the Vermont climate has only two seasons, summer and winter, with summer occurring last year on a Thursday in August.

Now, I have been hearing this sort of talk about winter ever since I have lived in what the geographers whimsically call the north temperate zone, which is to say all my life. People talk this way in Chicago, and in Kansas, and in New Jersey, and just about everywhere except in the deep South. Winter, it is agreed, lasts at least six months. For a half of the year, at least, nature is "dead." It dies away in autumn, about the time when the last bluebirds sound their final melancholy notes across the frozen fields, and it does not rouse up again until the bluebirds have returned to sound the same notes in the same fields once more ... notes which, though the same, are now mysteriously cheerful and full of promise. Vanishing bluebirds to returning bluebirds: that, at the very least, is the span of winter, and it is a time of dreary frozen sleep, much to be dreaded.

I don't believe a word of it.

I say it is a state of mind, and glumly false.

How long is a winter? By the calendar it is 90 days; which is quite an improvement over the bleak, misery-loving estimate of six months. But even the calendar reckoning is an arbitrary affair, composed for purposes of neatness and accountancy rather than for relevance to reality. The calendar was devised by a board of mathematicians, or some such authority; not by a countryman or a naturalist, watching the facts of earth. How long is winter? I would be no Pollyanna, averting my face from hard facts. But this morning with the sleet coming down, and a huddle of evening grosbeaks cowering in the big elm, and the prospect of plenty more blizzards before bluebird-time, I would still say that the winter lasts only about six weeks.

For by "winter" I mean just what all of us popularly mean; I mean the *dead* time of the year, the time when there is no hatching and life-springing and glad renaissance, the time of arrest and withdrawal.

From about the time of the winter solstice in December, to about the end of the month of January, I gladly concede, winter is in possession of us. Oh, there is plenty of liveliness, to be sure, even in this time of whiteness and cold. The chickadees make a merry racket at the feeder. The foxes and squirrels have not given up frisking, and the snow-bowed hemlocks up along the old wood-road have a pleasant tinkle in them of juncos and tree sparrows. It is *never* so wintry that there is no *quank* of nuthatches, no

*wee-uk wee-uk* of downy woodpeckers, no *beadle! beadle!* of blue jays rum-pusing in the leafless woods. Still, I grant these six weeks to wintertime. For there are no births and babies, no emergencies, no triumphs of renewal and restoration. Nature is as "dead" as she knows how to be. She sleeps in seeds. She rests in hidden places, and drowns with cold, and waits.

But that is all there is of winter. Look outside ourselves, and be nature-minded, and forget the old self-sorry myth; and what has become of the long, dismal deadness?

Can a naturalist admit that November is wintertime? Hardly. Why, it is in the forefront of November that witch hazel *blooms*. November, for witch hazel, is a time of spring; and who could contradict that? It snows in November, yes. But only the thinnest-blooded woodchucks heed it. The husky ones are still nibbling at frost-touched meadow grass, and lying beside their burrow-mounds and warming their tawny flanks in the slanting sun. Winter? With crickets and grasshoppers still perky in sheltered places? With flocks of robins and bluebirds still here? With the witch hazel lifting *blooms*? It is out of the question.

December, I grant, is a dwindling. From the first to the twenty-first is the final diminishment of autumn. And then, for six weeks or so, there is winter. But then . . . ?

Groundhog Day has come around. I have gone out every Groundhog Day for many, many years, and—sunlight or overcast, sub-zero or snowstorm—I have never failed to

find that at least one woodchuck has come scrabbling up from down under the frost-line and has taken a look at spring. Spring? Why of course. What else is it when the life-juices start running again, and sleep is broken, and eyes look out once more on the glory of the world? The woodchucks very likely stir, some of them, before February second, and some of them not until afterwards. But I choose the day as traditional; and, lol, the woodchucks say it is spring.

There is much else to say it. There are the willows, along the brook. Look at the *color* in them. That suffusion of pinks and greens was not there in the "winter." It is the manifest start and spurt of aliveness. It is restoration. It is hallelujah! Winter now, do you say? Fiddlesticks! Go look at the willows, and deny that it is spring.

This is when moles start coming out now. I find where they have gone floundering over-land (or over-snow); which is not a wintry thing to do, but a spring thing. And now, this first week of February is when my wife and I cut pussywillow sprays and forsythia sprays, and we find them all sapful and full of eagerness; and we put them in a jar on the window-shelf and presently they burst into leaf and fuzz and blossom. Winter? When *this* is happening? Clearly, it cannot be. The roaring blizzard outside the window may be ignored. It is only a *spring* blizzard. The pussywillows (and now presently the blossoming apple-sprays) signify it to be a nothing.

No spring birds yet? There is a spring bird *sound*. It is the chickadees

*Continued on Page 128*





Within a day's drive of the Audubon Nature Camp at Kerrville, Texas, Big Bend National Park is one of the most isolated parts of the Southwest, the last great Texan wilderness.



The Colima warbler, one of the rarest birds in the United States, from a painting by George M. Sutton. Courtesy of Josselyn Van Tyne and the Museum of Zoology, University of Michigan.

## The Colima Warbler of the Big Bend

By Alexander Sprunt, Jr.

IT was a mid-July day in 1949, and we were on the trail of one of the rarest birds in the United States. I had never seen a Colima warbler, neither had my wife and our two children, nor had the botanist, Ralph Kelting, who was, understandably, more interested in plants than in birds. To see the little-known Colima warbler, one must travel to that vast and splendid Big Bend National Park in southern Texas, for here is the only place in our entire country where this bird has been found.



The Chisos Mountains, home of the Colima warbler, are almost 8,000 feet above sea level. Photograph by Allan D. Cruickshank.

We were on the South Rim Trail, which leads from the "Basin" (park headquarters) to the higher country — Boot Canyon and Boot Spring — above 6,000 feet where Josselyn Van Tyne\* and, later, Van Tyne and George Sutton\*\* found the Colima warbler at home. We were excited at the prospect of seeing this rare bird, but not too eager to stop occasionally to look at the magnificent country, the strange plants, and birds all about us. We passed sotol and the imposing candlebrallike shafts of the maguey or century plant, often 15 feet high,

whose clusters of orange blooms attract insects and dozens of buzzing and chattering black-chinned and broad-tailed hummingbirds. Couch's jays called raucously across the steep slopes along the trail and the rich warble of Scott's orioles and western tanagers mingled in the trees.

Two days before, we had arrived at park headquarters, 79 miles south of Marathon, Texas, to spend a mid-summer holiday week in Big Bend National Park. I was instructing in bird study at the Audubon Camp at Kerrville, Texas, 400 miles to the east. Kelting was the botany instructor at camp, and we had brought our families along to enjoy our week together.

Practically in the center of the park

\* See "The Discovery of the Nest of the Colima Warbler," by Josselyn Van Tyne, and \*\* "The Birds of Brewster County, Texas," by Van Tyne and Sutton, Univ. of Michigan, Museum of Zoology, Misc. Publications No. 33 and No. 37 respectively.



and standing alone, the massive buttress of Casa Grande Peak overlooks the "Basin," in which are park headquarters, cottages, parking grounds for visitors, the restaurant, a store and gas station.

As we moved up South Rim Trail to the haunts of the Colima warbler, we were in the heart of the Chisos Mountains, which are actually far-flung outposts of the Rockies, yet the Chisos cover only about 40 of the park's 1,100 square miles. In that comparatively limited space, isolated amid a far-reaching desert on all sides, the Chisos form a biological island, harboring a varied life which appeals to any naturalist, and scenic grandeur that is incomparable anywhere!

I knew that little, if any systematic studies of the birds of this region had been done in midsummer, but our driving ornithological ambition was to see the rare little Colima warbler.

What is known about it, and from whence did it derive its name? This obscure bird was first introduced to the scientific world by Salvin and Godman in 1889, who collected the type specimen or the first one known to science, from Sierra Nevada, Colima, Mexico. Its Latin name, *Vermivora crissalis*, means literally (*Vermivora*) I eat a worm, and (*crissalis*) the crissum or undertail coverts, which are yellow and constitute the best identifying character for this bird in the field. Otherwise it resembles its nearest relative, the Virginia warbler, a bird inhabiting the Huachuca and Prescott Mountains of Arizona. The Colima warbler's breeding range is given as breeding "from the Chisos Mountains, Texas, south into Mexico through the mountains of Coahuila to western Tamaulipas and possibly to Colima and Michoacan."\*

\* A.O.U. Checklist (1931 edition).

As I thought of the history of the Colima warbler we were pushing upward steadily toward its haunts. We passed, here and there, another tree that could not fail to attract attention—the beautiful madrone. The velvety brownish-tan trunk is satin-smooth, and its appearance has given it the local name of "naked Indian." Botanists know it by the less imaginative, but more correct name of *Arbutus texana*. Like our native American beech tree of the northeastern United States, some people cannot resist the temptation to carve their initials in its smooth bark.

We moved slowly, not only on account of the steep trail rising ahead, but because we could not resist stopping to watch the mountain birds. We were beginning to get feverishly anxious to see the Colima warbler, but all about us were the brown and

Of all the national parks in the United States, Big Bend is unique in having both high and low country. Mammals or birds which, in winter, move down from the heights to the lowlands, may do so within Big Bend's 780,000 acres, without going outside the park. Photographs courtesy U. S. Fish and Wildlife Service. Coyote (right) by E. P. Haddon, black-tailed jackrabbit by J. Dixon.





the spotted towhees, so utterly different in appearance, black-crested titmice, streamlined western gnatcatchers that flitted about in the low scrub, and rock sparrows that peered fearlessly at us from trailside thickets. As we ascended, we frequently passed that botanical oddity of these strange mountains, the weeping juniper, a cedarlike tree whose foliage droops as though it is about to die from lack of water.

At last we topped out just west of Emory Peak, into a narrow, flat pass,

carpeted with grass and studded with clumps of Spanish oak, a tree locally called the "Laguna." We were now at an elevation of about 6,600 feet where we might expect to find the Colima warbler at any time! Our excitement mounted higher and we were examining every bird and every clump of vegetation carefully. Once we stopped to poke curiously about the ruins of an old log corral and a sudden buzz sounded under our feet! A small rattlesnake, scarcely 18 inches long lay near us, its miniature rattle sounding



Before the park became established, overgrazing by domestic livestock had depleted the lowlands of their natural forage. Photograph of Santa Elena Canyon by Glenn Burgess, courtesy U. S. National Park Service.

Excluding domestic livestock from the park will allow mule deer to increase. Photograph courtesy of U. S. Fish and Wildlife Service.

vigorously. It was an eastern rock rattlesnake, a form confined to high altitudes in the mountains of west Texas and Arizona. It is similar to the pygmy rattler of the eastern states and apparently its bite, though dangerous, is seldom fatal.

Coming to a grove of oaks, we squatted by the trail and tried "squeaking," hoping that here at last we would see the bird that we sought. Almost at once, movement in a nearby oak caught our eyes. A Rocky Mountain (white-breasted) nuthatch "yanked" its way about the limbs and

trunk, while on a dead twig of the same tree a small *Empidonax* flycatcher sat quietly. Then, low among the branches, another small bird showed briefly! Excitement ran high—was it what we were looking for? No, it was a gray vireo!

We squeaked and listened alternately, scanning the thick, twig-filled oaks carefully. Then, suddenly, the Colima warbler was before us! A small, grayish bird, rather nondescript, lighter on breast than above, but with decided yellow about the base of the tail, sat on an oak twig devouring a small cat-

erpillar. The bill was typical warbler—the slender, needlelike beak of the *Vermivora* genus—and it was, beyond any question, the Colima warbler.

Only those who have responded to that sensation aroused at the sight of a “new” species, will understand our feelings. We had come several hundred miles for this chance, we knew what to look for and where to look for it, but we could easily have failed. We watched this strange warbler closely, just as long as it flitted rather deliberately among the oak twigs. Then it was joined by another. Neither evidenced any fear, indeed, they appeared oblivious to us. The elevation at the spot was about 6,600 feet, fairly in the normal range of this little-known bird. We had, in those few moments, joined a select company, for few indeed are those American bird students who have watched this warbler in its haunts.\*

\* See, “The Nest of the Colima Warbler in Texas,” by Emmet R. Blake, *The Wilson Bulletin*, June 1949.

Having thus accomplished the great objective of the trip, we decided after returning to the “Basin” to explore other areas of this weird wonderland. One of the scenic “musts” of the Big Bend Park is Santa Elena Canyon and so dawn found us descending Green Gulch toward the desert of Terlingua Flats. Through the growing light, black-tailed deer moved off the road shoulder as we descended from the highlands, and a rock squirrel darted across the road, its dark coat seemingly black against the gray surface.

Fairly out on the desert flats, the low-cruising Texas nighthawks quartered over the ocotillas and handsome little desert sparrows, with their black bibs, flitted through the mesquite and creosote bushes. Western mourning doves flashed by, their wing music a high, shrill whistle. We looked for roadrunners—those queer, big ground cuckoos, the *paisano* of the Mexicans—but saw none. Once a slim coyote crossed in front of us about 50 yards





The Bell's vireo, locally called Texas vireo is one of the most abundant birds in the mesquite thickets of the Big Bend. Photograph by Allan D. Cruickshank.

distant, its ears cocked smartly, sharp muzzle high.

At length the road forked, the right turn leading to the little settlement of Terlingua, the site of rich quicksilver deposits. Keeping to the left, we could look far ahead and see, clearly enough despite the miles, a stupendous wall looming on the horizon, a wall unbroken, forbidding and impregnable save for one great cleft, a gash which bisected it from top to bottom. This towering barrier was the Mesa de Anquila (Plateau of the Eel) and the chasm cleaving it was Santa Elena Canyon which, during the centuries, the Rio Grande has relentlessly cut through the rock.

Closer we came, the whole wild scene growing more impressive by the mile. Twisting and turning, we suddenly came to trees, mostly willows and cottonwoods, growing there because of the river. Beyond the trees and out into the open again and across a sandy flat, where Terlingua Creek

joins it, flowed the Rio Grande del Norte itself! Calm and placid enough it was, muddy and narrow now. Directly in front of us was that gigantic cut, from water to sky, the beetling walls seeming almost to lean inward, dividing two countries so narrowly that one might easily throw an orange from the United States into Mexico.

We waded in, across and out on a narrow, pebbly beach. The huge cleft drew us in, engulfed and rose above us. We had been told about the trail in, up a steep defile almost at the en-





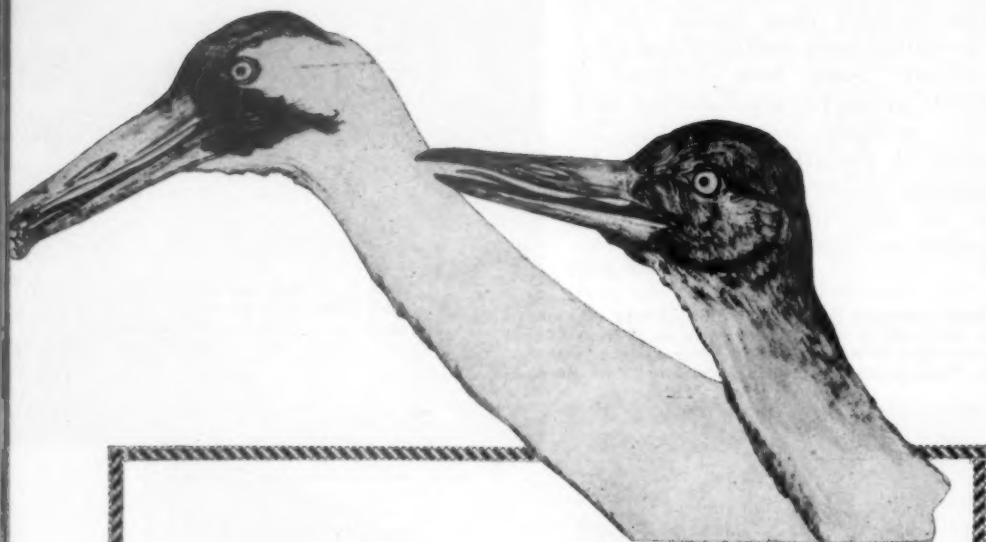
trance, then across a bench, or ledge, into the canyon itself. This trail was said to have been beaten out by "mountain lions, antelopes and other animals." Aside from ourselves as adults, we had two small animals, Kelt-ing's youngster and our own! We gazed at the all but perpendicular pathway up the bench, gazed, looked at the two youngsters, drew long breaths and started up.

*Continued on Page 116*

**Big Bend's area in Brewster County, Texas may some day be matched by an adjacent park in Mexico (left). Texas on right of a Rio Grande River canyon near Boquillas. Photograph courtesy U. S. National Park Service.**

**The stone dwelling of the Mexican who lived there for more than a century. Photograph by Allan D. Cruickshank.**





## THE WHOOPING CRANE AND ITS ENVIRONMENT

*Whooping crane drawings by the author.*

By Robert P. Allen\*

THE way to meet the whooping crane in winter is in his own element and, oddly enough, this means in the mud and water of the salt flats and not in the air. The big birds are among the most able of avian pedestrians and far more of their normal day is spent in walking than on the wing. Once airborne they are strong fliers, but, as a rule, are not given to fancy maneuvers or aerial acrobatics,

in spite of some of the testimony in the literature.

Their manner of flight is simple and devoid of the elaborate wrist-action of more highly developed forms. When about to take off, the whooper leans forward slightly, arching his neck in a peculiar posture. Then he runs, beating his huge wings in a beautiful display of the long, jet black primaries. Like a giant airplane with a full load of gas, he takes to the air on a low, almost horizontal line of

\* For the author's previous reports see, "The Whooping Cranes Still Dance," Audubon Magazine, May-June 1947, and, "Lost: Part of a Continent," January-February 1948 issue.

flight. The wingstroke is stiff and there is an emphatic and powerful flick on the upbeat. The entire arc of the stroke is narrow and there is no sweeping motion, only a steady, if rather jerky, *up* and back, *up* and back, (the italics illustrating the decided flick) similar to that of the limpkin, a close relative. At the refuge in Texas, I have never seen them soaring and circling except just before the spring migration. Then two or more birds may climb to a thousand feet or better and, to the wild music of their own bugle-like calls, circle and dip in an unexpected and thrilling display.

All winter long, however, they are pedestrians for the greater part of the time, flying only when disturbed or when wishing to move to certain feeding places beyond their usual territory or when defending that territory against the intrusion of other whoopers. I recall the winter day in 1947 when Olaf Wallmo and I, both fair pedestrians ourselves, tried to outwalk Old Crip, an injured whooping crane living on the Aransas Refuge, in Texas, and unable to fly. We spotted him standing on a low rise of ground, watching us from a distance of a little more than half a mile. It looked like a good opportunity to walk him down and observe him at close range, so Olaf and I decided on an encirclement. Olaf set off as if walking away, but gradually circled back so as to get beyond Crip. I waited until I saw in which direction he turned and then tried to head him in towards Olaf. We never had a chance! Old Crip calmly hiked up his bad wing and, head high, started off with those steady 23 inch strides that a whooping crane uses when he wants to run down a skittering blue crab, or outwalk a couple of boy scouts, which is what we soon felt like. Olaf and I, floundering across

mudholes and sinking to our knees in the soft bottom of every pond, were hopelessly outdistanced within ten minutes. When something over a mile away, Old Crip proceeded to lower his head and feed, completely in charge of the situation.

If the whooper's rather primitive manner of flight is partly responsible for his relatively earth-bound existence, the character of his winter quarters on the Texas coast is reason enough for the walking habit. Unprepossessing at first glance, the salt flats along the east side of the Blackjack Peninsula, site of the Aransas National Wildlife Refuge, are one of the most fascinating water environments that I have ever wet my feet in. All of it lies below the three foot contour and there are close to 10,000 acres of this type on the Aransas Refuge and the adjacent barrier islands of Matagorda and St. Joseph. Besides being the winter home of all but one of the 37 whoopers that now survive, these shallow ponds, sloughs and narrow, twisting tidal estuaries are the realm of the decapod crustaceans. To quote Joel Hedgpeth,\* who studied the distribution of the marine invertebrate fauna in connection with our whooping crane investigation, it is a transitional environment "which is neither altogether land nor still remains part of the sea." There are good reasons for believing that this is a peculiarly appropriate setting for *Grus americana*, a species that has not managed to move out of a predominantly aquatic environment, as the sandhills and the other more successful cranes have done. For here, on these salt flats, one may see living examples of the dramatic and age-long struggle of ani-

\* Of the Institute of Marine Science, University of Texas.



imals to escape from the sea and attain the land.

Our studies of the food habits of the whooping crane on that portion of the Texas coast, indicate that three or four decapod crustaceans are among the food items taken most regularly and in the greatest quantity. The decapods are highly organized crustaceans. Some of them have made the change from the sea to a partial existence in the brackish zone, but must return to the deeper bays, or the open Gulf of Mexico, to spawn. Others appear to live out their entire cycle within the shallow, protected waters of the salt flat ponds. In the Aransas habitat, only one of the decapods, the crayfish (*Cambarus*), has moved over into the tension zone between the brackish areas and the fresh water ponds farther inland. But the highly successful and energetic blue crab (*Callinectes sapidus*) is sometimes carried beyond the three foot contour by storm tides and for months may be observed living in fresh water swales two or three miles from the normal brackish limits. Some seem to find their way back to the salty margins that lead to the sea, where they must go to spawn, but the fate of most of

these adventuresome individuals is to be eaten by raccoons and wading birds.

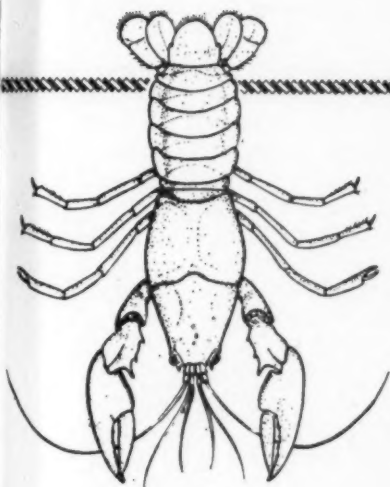
The whooping cranes, under normal winter conditions, spend but a small percentage of their total time on the Texas coast away from the salt flats and maritime beaches. Like the blue crab, which may be their chief food in that region, they stray into the tension zone that lies in the direction of true land, but, again like the crab, they have not severed their vital connection with the sea in that environment. Elsewhere, at a considerable distance from the sea, the whoopers still must depend on a shallow, marginal, water habitat for existence.

There are many examples of the struggle to reach the land and we see, from a comparison of the various animals involved, that some of them, the blue crab for instance, are abundant races that appear to have adapted themselves to the rigors of this environmental warfare, while others, less adaptable, lose ground and are depleted in numbers. It seems possible that sometime towards the end of the Pleistocene, or early in recent times, gradual and large scale habitat changes, including a general lowering of water tables across the entire con-

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"Our studies of the food habits of the whooping crane on the Texas coast indicate that crustaceans are among the food items taken most regularly and in greatest quantity. . . . In the Aransas habitat, the crayfish (*Cambarus*) has moved into the zone between the brackish areas and the fresh water ponds farther inland."

Drawing of crayfish by Joel W. Hedgpeth.



continent, were met by the sandhill cranes with a change in their habits, an *adaptation* to the new conditions. Speaking broadly, this meant coming out of the water to a considerable extent and changing their food habits so as to subsist on vegetable matter almost entirely, if necessary. It meant living in mixed forest and in sandhill country, instead of exclusively in the wet savannas and marshes from which these birds doubtless sprang. The whooping crane seems never to have made this change, nor adapted himself to the new conditions.

Close relatives of the cranes, like the limpkins and rails, have remained in the water, so to speak, but with varying degrees of success. Their food hab-

its are, in some cases, nearly identical with those of the giant whooper. The limpkin that occurs in Florida, a race with highly specialized food habits, has been seriously depleted by environmental changes brought about by man. So has our ivory-billed woodpecker, now extinct or on the point of extinction. The abundant pileated woodpecker thrives in the same lumbered areas where the ivory-bill has disappeared. Another current example is the California condor, greatly reduced in numbers in regions where the numerous turkey vultures live happily. Dr. Loye Miller, professor emeritus of the University of California at Los Angeles, has termed this failure to meet changed conditions the result of a "crystallized psychology." The avian paleontologists can assure us that this sort of thing has been in operation for a long time. When man came upon the scene in North America, the whooper had already dropped far behind the sandhill crane, in all probability. The ratio of lesser sandhill cranes to whooping cranes in the Rancho La Brea tar deposits is 29:1. Since the first white explorers journeyed into the wilderness of this continent, both cranes have been killed for food, but the sandhill cranes, because of their vegetable diet, were always more highly prized and more eagerly hunted. Nevertheless, today there are more than 100,000 lesser sandhills and possibly 3,000 or 4,000 of the greater sandhills, including the Florida race. But only 37 whooping cranes survive. Other factors have been involved, but a native lack of adaptability—a "crystallized psychology"—has apparently been an important reason why the whooping crane decreased in numbers so rapidly, once North America was opened to settlement.



# EXPLORING THE WORLD OF "Whistle Pig"

**A widely-known mammalogist finds his richest fields of discovery in commonplace species.**

*All photographs by the author, unless otherwise noted.*

**By W. J. Hamilton, Jr.**

**T**HROUGHOUT the farmlands of our eastern states, an abundant large rodent thrives and increases amazingly. Its somewhat squat appearance, the grizzled pelage, black paws and waddling gallop as it rushes for its underground burrow distinguish the woodchuck from other beasts of field and forest. Related to the ground squirrel billions of the West, it is the one familiar eastern representative of this great rodent horde that causes the gardener and farmer trouble, provides food for some predators and adds immeasurable pleasure to those who find enjoyment in nature.

Unfortunately, the commonplace is often disregarded. Overlooking the abundant birds and other creatures about us, too many of us seek the rarities. Fortunate, perhaps, is the biologist who cannot travel far afield, but must study those species at hand. We, who forego travel to distant lands may not see species that are new to us, but we do uncover new facts about the

common inhabitants of our own fields and forests.

As a youth I itched to see the exotic and study the unfamiliar. A trip to the American tropics convinced me that time could more profitably be spent at home. Years ago I learned, through the wisdom of many teachers, that the unexplored was at our feet, awaiting study. Of many birds and mammals which I have investigated since, none has brought more fun and thrills than unravelling some of the things that were previously unknown about the woodchuck. Here was an abundant species, the life history of which had been scantily outlined and explored. Furthermore, the 'chuck could easily be observed, and, with planned effort, it offered a productive creature to study.

After reviewing what was known of the woodchuck and its ways, I began my study. Twenty years have passed since the incipient facts were uncovered. This spring will bring additional data, as every previous year has done, adding new insight and understanding of the animal.

This little story is a resume of a popular animal whose life, in some measure, is yet a mystery. It is rare sport to unearth new facts of natural

Excavating a woodchuck den is hard work. This den yielded a female that later gave birth to her young in captivity. After the young ones were weaned, the author marked the woodchuck family for future identification and released them.

The "plunge hole" (right), into which the woodchuck can disappear as if by magic, has no telltale mound of earth at its door and is usually concealed by growing grasses.





The woodchuck, immortalized in legend as a prophet of spring, is one of the commonest mammals of our eastern fields and woodlands. Yet, its life history in some measure, still remains a mystery. Photograph by Allan D. Cruickshank.

history, to catalog information that one knows has not been previously recorded. Its greatest promise still lies in a study of our abundant species.

Field study of a species may commence at any time. We decided to begin our woodchuck study in the winter months. The real assault began on a Christmas morning. Armed with picks and shovels, a friend and I la-

boriously dug out the den of a woodchuck we had watched through the early fall. "Black frosts" so named for their crippling influence on vegetation, had crumpled the clover and alfalfa alike, but did little to dismay this individual, for we had seen it abroad into early October. After much effort, the entire burrow system was unearthed, mapped, and figured, but nary a glimpse was seen of the beast that had labored much longer to make its underground retreat than had we in opening it up. Our efforts continued into late winter on other burrows that we knew had been occupied by chucks during the past fall, but not one did we find. At last the snow tracks of woodchucks about burrows in nearby woods and dense hedgerows gave us the clew—the



groundhog seldom winters in the open fields. Instead, he chooses a retreat for the long weeks of slumber in the neighboring woodlot. Repeated observation over the years in western New York has proved this surmise to be correct.

This denizen of the clover fields digs its den wisely. A sloping burrow into a hillside, a straight shaft into the level meadow, in fact, any tunnel in an area that will not draw water. Usually the provident beast prepares several avenues of escape, the most useful (and surely the least obvious to man and other enemies) being the plunge hole. No dirt mound salutes this hidden blind; here the chuck gains a "fox-hole" to the outside world, to scan the neighboring countryside and fields for enemies—the farmer's dog or the man with a rifle—each intent on his destruction. In one of the subterranean recesses a nest of dead grasses and leaves is prepared to sleep away the night. Here the chuck has immunity against a host of enemies, be they man, fox, or other predatory animals.

The woodchuck slumbers away four months or more of the year in a comatose sleep. In its nest of grass or leaves, it is indeed a hibernator in the true sense. Unlike the bear, skunk, raccoon and other hibernal sleepers, the big marmot is to all intents dead. The body temperature may drop to a few degrees above the freezing point, the circulation is greatly retarded and the stiff body is rolled into a rigid fur ball. Nose tucked between hind quarters, eyes tightly closed, the fur bundle can be rolled on the ground as a "frozen" ball. The dormant creature whiles away the frigid season in a state that many a man in trying times might wish to emulate. Body temperatures, taken of several captive hibernating individuals, were between 46 degrees

F. and 65 degrees F. These individuals were in outside pens, contained in enclosures approximating as near as possible the natural underground wintering quarters.

Lay this lethargic beast on the kitchen floor and the results are astonishing. Aware of the warmth, the animal slowly unfolds, may actually yawn, opens its eyes and, on unsteady legs, will shiver violently for several moments. Shortly it is quite awake, grating its sharp white incisors and warning the observer against undue familiarity. The process of awakening is



This uncovered woodchuck nest of dead grass is only a foot below the ground surface. Young woodchucks, like human children, must be housebroken. Until she gets them trained, the mother is kept busy bringing in soft dry grasses and throwing out the soiled material.

presumably slower in the winter chamber, but who can say? No one yet has studied this fascinating creature in its underground labyrinth.

February brings added heat to the earth, sufficient to arouse the woodchuck from its long sleep. Strangely enough, the greatest activity is now at night. We have spent days on end in the field to witness this first rising. Telltale tracks in the crisp winter

snow proclaim the chuck's adventurous trips at this early season. Fasting is at hand, for it is a well established fact that the woodchuck early deserts the moisture laden green fields of Indian summer, only to reappear in late winter before the succulent herbs have pushed through the frozen ground to provide adequate sustenance. The long sleep is not without pronounced effect. The animals may weigh a third less than the usual nine or ten pounds of adult woodchucks when they entered their dormant period. Stored fat remains to sustain him a bit longer, since woodchucks do get an occasional meal from wild cherry bark and the early sprouting grasses and herbs bordering the little meadow rivulets exposed by the ever more powerful sun.

The mating season is now at hand. The males, bent on generating their kind, dig subnivean tunnels in the great snowdrifts with incredible accuracy, finding the entrances to burrows that may harbor a prospective mate. Mating may continue until the last vestige of snow has left the sheltered nooks and the first red-wings have proclaimed their arrival by lusty calls. In the early years of my study by analogy and comparisons with related species, I had to estimate the gestation period of the woodchuck, which I placed at four weeks. We now know that it is a few days longer than a lunar month. A single litter is produced each year; the average number of youngsters is four.

A first glimpse of the previously undescribed young of any mammal is surely as exciting as to uncover the unknown eggs of the rarest bird. My first sight of these blind, naked, pink youngsters was in the spring of 1931. One of several captive females produced this litter, shown in the photo-



Usually, the female gives birth to from two to six naked, pink little beings less than four inches long and weighing about an ounce apiece. To nurse them, the mother stands on all fours, or sits up on her haunches like a miniature bear.

graphs that illustrate this article. The youngsters weigh about an ounce at birth. Growth is reasonably rapid, as the photographs indicate. The little chucks are well furred before the eyes open at four weeks. Presumably this is an adaptation of most ground squirrels, in order to keep the young confined to the natal chamber. They can crawl and move about rather vigorously before weaning is accomplished. When about five weeks of age, the youngsters leave the den, to romp and play about the dirt strewn entrance. A warning whistle from the alert mother (the male is seldom about) sends them all scurrying to the black recesses below.

Three weeks old, the youngsters are now recognizable as woodchucks, with grizzled snouts, black faces and other characters that stamp them as marmots. Woodchucks are "old" at the age of five or six years.







Eight weeks old now and weighing more than a pound each, these young woodchucks are able to fend for themselves. After spending another week or two about their home den, they may be driven away by the mother.

By midsummer the young must fend for themselves. Finding new territory is no great chore, for the lush meadows have more than enough food. The youngsters must grubble hastily, for the cold season is soon at hand, and a layer of fat is a requisite for all true hibernators. Spreading out, the juveniles eventually find a new home. Locating a suitable den site is not difficult, but usurping a tenanted burrow is quite another matter. Occasionally a woodchuck will explore a burrow occupied by another. Amicable terms may be reached, where two individuals will live in harmony for a long period, but often an irascible marmot, as with man, does not choose to share its apartment with a neighbor. While searching for woodchucks years ago, I surprised an individual well removed from any burrow. I tried to run it down and in its eagerness to escape, it scurried to the nearest hole at hand, but the frightened individual had chosen the wrong sanctuary. It soon emerged and ran off in precipitous haste. My companion and I watched it, chased in a ludicrous manner by a larger animal that had tenants' rights to the hole.

To list the food plants of this big fellow would necessitate incorporating a large share of the succulents in its range of travels. The food varies with the season, and appears dependent upon the availability of the various plants at hand. In the spring, the blossoms of coltsfoot, dandelion and other early spring flowers are relished. As increasing green plants appear, they make for a more varied diet. Like a farm boy intent on the luscious summer harvest, the woodchuck may travel some distance to a blackberry patch, to pull down and devour the ripening berries. Fallen apples are greedily eaten, the stomach at times being enormously distended with this fruit. Staple foods are the various species of clover, the stems, leaves and flower heads being eaten with evident enjoyment. Like the skunk and coon, the woodchuck may invade the corn field, pulling down and shredding the green ears, taking a bit of the sweet milk from several cobs, spoiling far more than is actually eaten. The bean patch is methodically robbed, necessitating the replanting of entire rows. Melons, strawberries, beets, lettuce and various truck crops are all susceptible to its surprisingly varied diet. I have weighed a good many stomach contents of these animals. Occasionally the woodchuck may, at one feeding, consume food plants equal to a third of its weight. Imagine the table load of victuals we, at a single feast, would have to put away to rival this feat!

Man is the everpresent enemy. With rifle, traps and poisonous gas, he wages an unrelenting warfare



against the "whistle pig." This everlasting campaign may reduce the woodchuck population temporarily, but other legions of the animal are at hand to replace those destroyed. Its wild archenemy is the red fox, whose uncanny stalking skill and sharp teeth are lethal to many a fat woodchuck. Other enemies there may be, but fortunately for the woodchuck they are few and far between, and many prospective ones are active only at night. The contented woodchuck sleeps away the dark hours, safely ensconced in its underground chamber while the great horned owl preys on rabbits, mice and other smaller creatures.

People have asked me: "What good is the woodchuck?" "How does he serve us?" Much as some of us may like the woodchuck and wish to have him around, he does create problems and we must face them. Some control of any animal that seriously conflicts with man's interest and welfare is obviously necessary. The woodchuck destroys garden and farm crops, and occasionally is an unmitigated nuisance by throwing up a rubble of stones over pastures. In hay fields, the farmer often must lift the cutting bar of his mowing machine to avoid the mounds of earth at the entrances to woodchuck dens. Thus, many farmers welcome the hunter and his rifle

as a means of reducing a pest that, at times, causes him damage.

Yet, no one should pass judgment on a wild animal without considering his own sins. The woodchuck, with all his faults, is of great value to many of his fellow creatures in providing burrows for rabbits, opossums, weasels, skunks and other animals valuable as game species, or for their fur. Sometimes his burrow may be appropriated and enlarged by a handsome red fox, an animal noted for its destruction of woodchucks, and other rodents harmful to the interests of the farmer. On the other hand, foxes and rabbits, eagerly-sought trophies of the trapper and sportsman, may be inimical at times to poultry and to orchards.

To tolerate or to control woodchucks will probably always depend upon the amount of local damage they inflict and, primarily, upon the land use of the community in which they are found. In an intensely-farmed region, a high population of these animals will surely be more harmful than in a section of abandoned farms and in woodlands. We who hail the sharp warning whistle of the woodchuck and his alert brown figure at the doorway to his den, would find the leafless woods of April and the lush green fields of summer a lesser world without him.

To hibernate the captive animals, the author simulated a woodchuck den with straw-covered galvanized piping and pails, disturbing them only to study the sleepers, and later, the growing young.

This pound of alfalfa would provide a woodchuck with a full repast if it were content to eat it all. Instead it nibbles only the succulent tips, thus destroying far more than it eats.



**Our Beautiful  
Western Birds**



### **BUSH-TIT**

**Bush-tits love company — the more the merrier.**

**Two or three dozen of these drab midgets, busy as mice, will swarm through a thicket or a live oak, talking to themselves and to each other in high-pitched chips and lisps. Dangling upside down from the twig tips, they remind us of tiny chickadees.**

**Strictly western, they might be looked for anywhere from the Rockies to the coast, particularly among the oaks. The nest is remarkable for such a modest-looking little bird, an elaborate mossy pouch, eight or nine inches long, with an entrance near the top.**



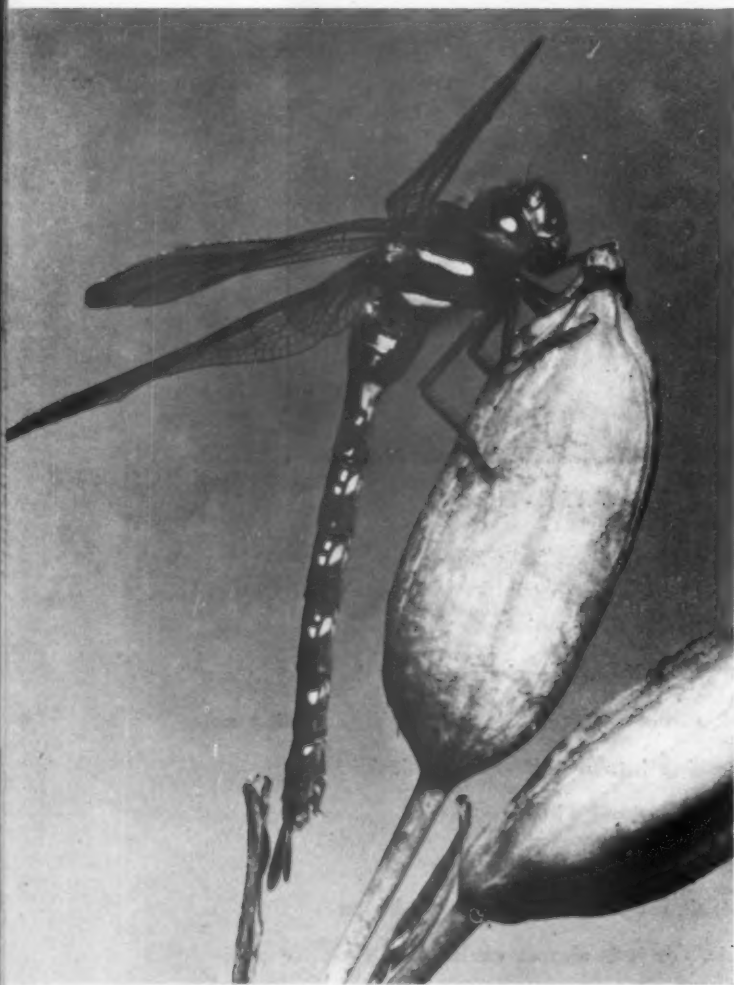
Painted by  
Roger Tory  
Peterson

### WREN-TIT

The wren-tit is a voice in the brush, a voice heard every month in the year. From the chaparral in the canyon or the shrubbery in the park comes a staccato series of short ringing notes all on the same pitch, running into a trill at the end. The song can hardly be overlooked by anyone who lives in California, yet the singer, lurking in the shadows is seldom seen. The wren-tit might well have been chosen the state bird of California, for it is almost exclusively a native son, crossing only into Baja California and Oregon.



By Edwin Way Teale



The dragonfly is often called a mosquito hawk.

Hawks of the bird world have their counterpart among the insects. Swift-winged, keen-eyed, rapacious, the dragonflies, robber flies and other insect predators, snatch their prey from the air in falcon-like swoops and rushes. Insect "hawks," like birds of prey, play an important role in maintaining nature's balance. The praying mantis, for example, consumes so many beetles, bugs, caterpillars and other agricultural pests that one midwestern nursery for several years sold mantis eggs to gardeners who placed them





# of the Insect World

All photographs by the author

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among their flower beds and vegetable plots. The mantis is both hunter and trapper. When it has stalked its prey, it shoots out its forelegs and snaps them shut over the victim's back, imprisoning it as though in the jaws of a toothed steel trap. Almost half the insects prey on other insects. Some are primarily concerned with capturing food for themselves; others with providing food for their offspring. The latter include the innumerable parasites. Indirectly, but effectively, they also play their part in holding other species in check.



The praying mantis devours garden pests.



Mantis with dragonfly.



The caterpillar-hunter, the predacious bug, *Podisus*, uses a hollow lance to spear its victims. This lance is its elongated and marvelously braced beak. When not in use, it folds down beneath the insect's body. Through this hollow tube, the bug drains off vital juices from the body of its victim. In the spring, *Podisus* feeds largely upon tent caterpillars.



Among birds, hawks have only two legs equipped with talons. The robber fly, however, has six such legs, each ending in curved, needle-sharp claws for grasping flying prey. It flies swiftly and its immense, bulging eyes, formed of thousands of hexagonal lenses, enable it to see victims, such as the bee shown captured in this photograph, at considerable distances.





Instead of swift wings, keen eyesight or a lancet-beak, the orange-colored ichneumon fly, *Megarhyssa lunator*, employs in its hunting an incredibly keen sense of smell and an insect drill that can penetrate tree trunks. Laboratory tests have indicated that such a huntress can smell its prey through two solid inches of wood. It parasitizes the larvae of the sawfly which tunnel through tree trunks. Once it has located the larva in its tunnel, the ichneumon fly bores downward and deposits an egg in the tunnel. From this egg hatches a carnivorous ichneumon-fly larva that devours the grub of the sawfly.



Insect eggs as well as insect larvae are frequently parasitized. This photograph shows the empty shells of a cluster of such eggs. The parasites have consumed the contents and, when full-grown, have eaten their way out of the tops of the shells. In one remarkable case, a minute wasplike parasite uses its wings to swim underwater so it can lay its eggs on those of dragonflies deposited in the tissues of submerged pond weeds. Another small insect lurks on the body of the female praying mantis until it begins laying its eggs. Then it deposits an egg of its own on each the mantis lays.

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More than half a hundred *Microgaster* parasites have fed on tissues within the body of this doomed tomato worm. Now they have emerged to spin pure-white silken cocoons on its back. Out of each cocoon will emerge a tiny black, waspish, winged adult. After mating, the females will hunt for caterpillars, depositing eggs in their bodies that will hatch into ravenous larvae. Some parasitic insects, such as the Chalcid flies, deposit curious multiplying eggs. According to the size of the victim, they multiply within its body. Sometimes more than 2,000 individuals thus result from the planting of a single egg.



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In this closeup picture, a *Microgaster* adult is seen emerging from one of the cocoons on the back of the tomato worm. Within its silken chamber, it has transformed from grub to adult. Just before emerging, it neatly cuts around the top of the cocoon so a cap tilts back when it pushes against it. When a *Microgaster* female discovers a caterpillar victim, it dives swiftly, jabs home its little spear of an ovipositor and leaves an egg behind. Thus it insures the welfare of its offspring and, like all the "hawks" of the insect world, provides a check on the spread of other species.





John J. Audubon



**A prominent field ornithologist  
appraises the great American painter of birds.**

## **John James Audubon**

**—Artist and Ornithologist\***

**By Ludlow Griscom**

**I**T IS now almost a century since the death of John James Audubon (1785-1851). Not only has his reputation lasted, but if anything, his fame and renown have increased with the passage of time. It, perhaps, might be worth while to pause and enquire why this is so. He is a perpetual source of study, discussion and debate, and much ink has been spilled over whether his claim to fame was primarily as an ornithologist or an artist. In my opinion much of this debate is second rate or even trivial, and misses the major point.

In this book we are chiefly concerned with Audubon as an artist and ornithologist, and we pass to a critique of his stature in these two fields. There can be no question of his place as an artist. He is one of the American immortals, his originals are priceless, and only the very rich can afford the earlier octavo editions. It is high time

that bird-lovers were reminded again of what Audubon set out to do and what his contribution was. Illustrations of birds prior to him were mostly incredibly crude. The artist drew the stuffed and mounted specimen, about which he knew nothing, often faithfully reproducing the unnatural lumps in the outline of the body, and foreshortening the neck and tail. The colors faithfully showed any fading or dirt on the mount, and little effort was made to indicate the fact that the bird's body was coated with feathers. Finally the bird was placed on a conventionalized perch or twig, not in the least resembling any twig existing in nature.

Audubon's paintings were life-sized portraits in natural attitudes, in a natural habitat, or perched on a flower or tree of a species actually existing and instantly recognizable. Only the well-informed ornithologist can criticize some of his work. He dramatized his birds as well as himself. The colors of

\* From an introduction to "Audubon's Birds of America" (popular edition), published March, 1950 by the Macmillan Company, New York City.

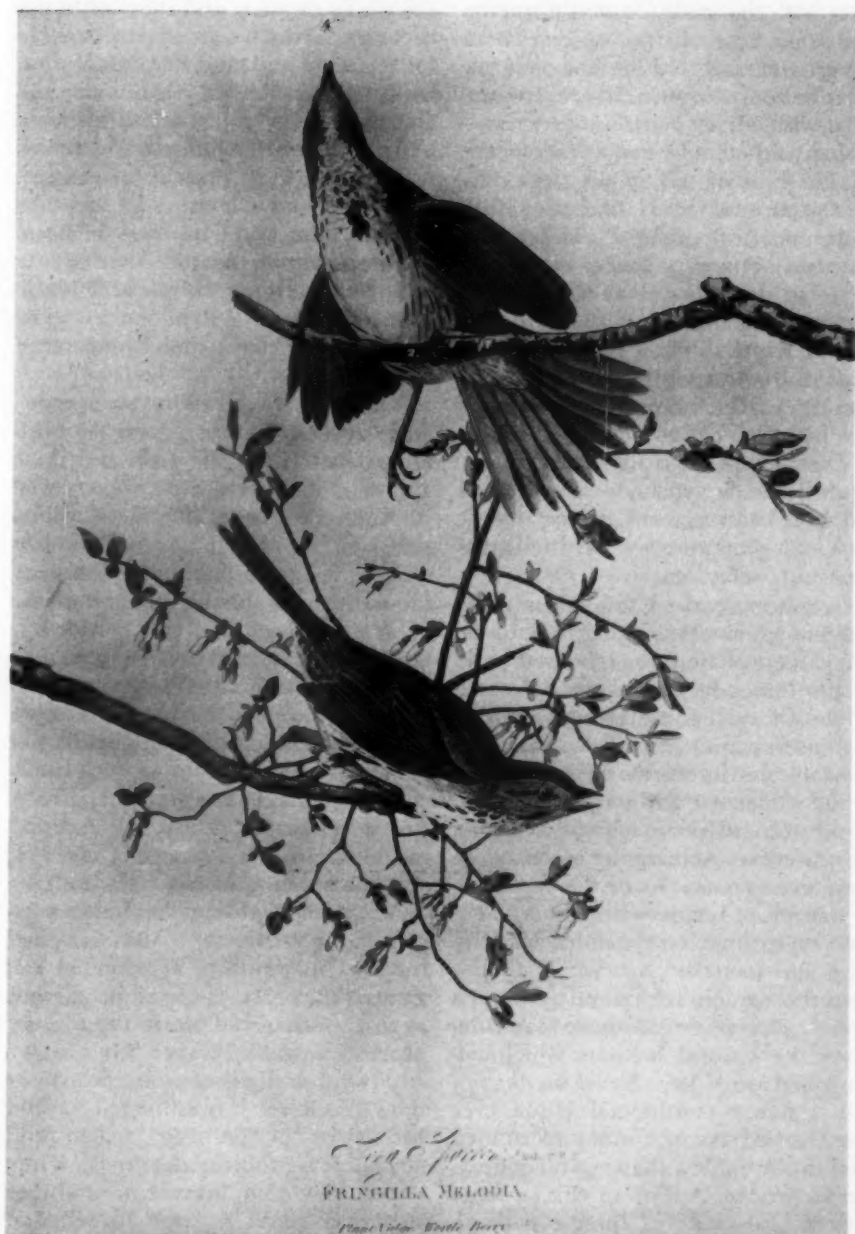
some are too bright, the poses of others are too striking, or they are in startling attitudes which the bird actually never adopts in life. We happen to live in an age of extreme exactitude, bird portraits in color are hopelessly expensive, and the goal of most illustration today is scientific delineation, measured out to the last millimeter, as an aid to identification and recognition. Thus Audubon's bald eagle is easily seen to have 11 tail feathers, whereas eagles possess 12. No modern illustrator of birds would dream of making so unimportant a slip, which of course in no way detracts from the artistic as well as lifelike effect.

If a sort of Gallup poll were held, and the question were asked—"Can you mention the name of some noted ornithologist?"—it is my best guess that a substantial percentage of the better educated Americans would answer, "Audubon," without hesitation. It is equally my guess that only those with a special interest in birds would ever have heard of any other!

Various competent ornithologists have given critiques of Audubon, and have, quite fairly, pointed out his limitations. He did indeed discover many new birds, and he added greatly to our knowledge of many others, but he was not at all scientifically minded in technical directions, and made no effort to improve the classification of birds in the higher categories of genera and families. In many directions his artistic side dominated the scientific. The ornithologist who discovers and describes new birds, or who finds others in America for the first time, invariably prizes and preserves the specimen as a permanent voucher or proof of his discovery. To Audubon, the precious possession to which he clung no matter what the adversity of his circumstances, was his painting.

Throughout most of his life he threw the specimens away after the painting was completed, never supposing that his integrity or fidelity to nature would be questioned. He has, therefore, left behind him a certain number of insoluble mysteries. On the one hand he claims to have seen or shot and painted some well known European birds, never seen or heard of in the New World again. On the other hand, he discovered, described and painted several "new" species, also never heard of again, none of which can be explained away as hybrids, freaks, or a plumage variation of any bird we know. Needless to say, in these last cases particularly, modern science would give anything to have the original specimen preserved and available for study. Finally, some of Audubon's "errors" were really due to the misinformation of friends and correspondents in whom he had confidence. Thus specimens of certain sea birds were sent him, purporting to come from the "mouth of the Columbia River" in Oregon, which actually were collected at Cape Horn, or near it.

Other criticisms of Audubon reflect chiefly on the critics. It is common sense that we have learned a lot about the birds of eastern North America since Audubon's day, and are still adding to knowledge about them. Moreover, every corner of a great continent has now been explored, half of which Audubon never penetrated, containing birds of whose existence he remained unaware. It is obviously no reflection on this remarkable man that there was plenty to find out after his death. Think of the handicaps and difficulties under which he labored, the difficulties of transportation and travel, the lack of field glasses, to mention only a few. We consequently find



Song sparrow. "Breeds in thickets, marshes and gardens on most of the continent except the extreme south. Abundant and domesticated in the east, local and uncommon in the west. Length 5-6¼ inches."

that his knowledge was most incomplete with the small forest and treetop birds that he could not observe from the ground, and that he shot on a few occasions only by pure chance. In common with all early or pioneer ornithologists, he could not work out the relationships of technically very difficult groups of birds like the gulls, terns, small flycatchers and certain thrushes. His experience was inadequate to determine that some of his species were nothing but the immature or winter plumages of birds well known to him only in their adult plumages. He was unable to unravel the puzzling color phases of certain hawks. There is little merit in attempting to depreciate him because he did not know certain things that it took two generations of ornithologists after him to find out.

In spite of various things Audubon did not know about American birds, the passage of time has rendered some of the things he did know and some of the things he saw of ever increasing interest and historical value. He foretold the inevitable disappearance of the wilderness, and remarked on the rapid decrease of various birds in his own lifetime. Actually he could never have even conceived of the rapid acceleration of tempo with which scientific inventions have enabled our civilization to take possession of the country, exploit its natural resources, utterly change the landscape, and destroy the natural habitats which nature had provided. Never in history has a native continental fauna ever been called on to endure so sudden and catastrophic a change, and endeavor to survive. Added to this, a large list of birds suffered intense persecution from sport, market gunning, the plume trade, cage-bird traffic and other reasons. There were practically

no game laws worthy of the name in the whole country, and they could not be enforced in unsettled regions. No sentiment of any kind in favor of most birds existed. Hawks, crows, owls, and all large water and marsh birds were natural targets for hunters and travelers on which to practise marksmanship. Small boys learned to shoot by popping away at the birds on the lawn. We must also remember that in Audubon's time even robins and blackbirds were regarded as game, while the poor gathered gulls' and terns' eggs for food.

The results can easily be appreciated. Several famous American birds are extinct. Two, the Labrador duck and great auk, were little known even in Audubon's time, but the Carolina parakeet was common, and the passenger pigeon existed in such spectacular multitudes that it was one of the great wonders of the living world. Several others are on the verge of extinction. The game supply of the continent was decimated beyond recovery, roughly speaking only about 10 per cent of it surviving into modern times. A large number of other birds greatly decreased by reason of the destruction of the forests, the drainage of marshes, and the spoiling of much country by civilization. Audubon has left us accounts of these rare and vanished birds. The numbers of some of the game birds he saw were so prodigious as to appear incredible to the present generation of bird-lovers. Thus a two-day October flight of woodcock down the Ohio River was estimated by him to consist of between 30,000 and 40,000. It is problematical today if any expert devoting himself to hunting this bird could manage to see that many in a lifetime.

One of the many points of interest about birds is a characteristic which

may loosely be termed "powers of adaptation." This is in marked contrast to lower or less evolved groups of animals, as well as the plants, which are the unconscious victims of blind chance; these live or perish according to whether their circumstances are favorable or unfavorable. But most birds can take some steps to mitigate or improve their lot. They can leave an area where they are hunted, acquire wariness under persecution, adopt new habitats, abandon their natural shyness and suspicion upon learning that it is uncalled for. Birds put up with or even adopt the vicinity of man if he does them no harm. In other words they can adapt themselves to new or changed conditions, whether for better or for worse.

American birds began adapting themselves to the changes brought about by the white man in early colonial times. The robin, swallows, chimney swift, and martin became familiar dooryard birds. Audubon took for granted that a great variety of common birds were characteristic of gardens, orchards, fields and pastures, without stopping to think that these habitats had never previously existed. They were created by the white man deliberately, involving the destruction of the original primeval forest. This event serves to illustrate and explain a fundamental principle in natural history and biology. It is *impossible* to destroy one habitat without automatically creating another. The destruction of the forest may well in-

volve the loss or disappearance of some or most of those birds and other animals requiring it as a habitat, and we may well mourn their decrease or extinction. But some at least of these forest birds adapted themselves to the new conditions. The robin, for instance, was originally a forest bird, and still is in remote parts of the continent. The chimney swift nested in hollow trees in the forest before there were any chimneys.

It consequently follows that the changes brought about by the white man created a great boon for those birds requiring or preferring forest edges, sprout woods, thickets, and open country of every kind. At least 100 species are now common, well known, and widely distributed, which were absent or else rare and local in most of the forested northern and eastern states in early colonial times. Our final debt to Audubon is that he left us some invaluable data on this subject. In certain cases he has told us what type of country a certain bird inhabited in his time, now found in radically different environments. Even more interesting are those cases, where the bird was rare and little known to him, but a species now common and widely distributed. Several warblers preferring second-growth woodlands will illustrate this category, and we have a definite historic record of their arrival in and gradual spread over much of the northeast since Audubon's time.

*To be continued in the May-June 1950 issue*

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#### INSECT APPETITES

"The activities of insects, like those of other animals, are an expression of three fundamental appetites. Two of these—hunger and sex—are positive and possessive, the

other—fear or avoidance—is negative and avertive."—William Morton Wheeler, "Social Life Among the Insects." Harcourt, Brace & Co., N. Y. 1923.



**COLIMA WARBLER**—Continued from Page 91

We gained the level where the trail led off parallel with the stream below and inched along, a steep slope above us, a practically sheer declivity under us. Antelopes and mountain lions—we began to wish that we were either the one or the other!

Stones rolled out from underfoot, and plunged into the depths. Cacti loomed in the path and had to be skirted. Both youngsters did well, sliding on their haunches over bare rock, dodging cactus and plodding along bravely to the somewhat tumultuous heartbeats of their parents. At last the trail sloped downward. We descended to river level and made our way between boulders the size of small houses. Dropping to rest at last, on piles of drifted debris left by the Rio among the rocks, we caught breath and marveled at our surroundings.

As we lay looking up at the heights above us, we envied the birds which, even here, were common. White-throated swifts in airy grace swooped, dived and side-slipped between the narrow cliffs, sometimes descending almost to water level, then, with breathtaking zooms, shooting skyward into the air above. House finches chattered and dashed about; a canyon wren poured its wonderful melody down from the high walls in descending cadence; turkey vultures veered and tilted above the chasm, now in it, now out, and ravens croaked from the upper crags and, at times, spiraled down to alight in the very edge of the river itself.

At last we arose and picked our precarious way back across the high shelf, the day hotter now by far and the rocks scorching to the touch. We reached the river again at the mouth of the canyon and thankfully flopped into it, clothes and all, the cooling

ripples playing about us up to our waists. Climbing into the station wagon we recrossed the Terlingua Flats at midday, now tremendously changed from early morning. The furnacelike heat was almost frightening. How the desert vegetation here can survive seems miraculous, much less furred or feathered animals.

Several miles away from the river we came to a house, an incredible sort of house in an unbelievable setting. Long and low, of desert stone it was, the roof sagging dismally, its door gone, the interior a gaping, black hole. Not a window pierced the heavy walls. In the pathetic yard stood the frame of what once, no doubt, had been a covered wagon, its wood yet strong and firm in that dry air, but its creaking wheels now stilled. A square of crazily leaning posts indicated a small corral; a tumble-down pile of weathered boards the remains of some outbuilding. A steep, rocky hill reared upward behind the yard, the vastness of the desert reached away in front. A glance



**NATURE IN**



inside the interior gloom revealed a dilapidated bedstead, and two or three orange crates against the wall as shelves. That was all.

We had heard about this house from the park ranger before we saw it. He told us that an ancient Mexican, one Gilberto Luna, only recently deceased, had lived there all of his more than 100 years of life! It seemed impossible that anyone could have done so in that seared desolation which he had called home. What powerful determination, what insistent urge it must have demanded to hold him there! It almost seemed that he was under some curse which had driven "thee ever to the sun on blistering rocks." And yet, he was, perhaps, perfectly content because he knew no other place. We left that mute remnant of human conflict with nature, and climbed again to the cooling hills, so near comparatively, yet so utterly distant in character.

We sat, that evening, on the terrace of our rock cottage and watched the

sunset through the "window," that cleft on the western edge of the Chisos which overlooks the desert. Bands of clouds lay high over the Terlingua Flats, still shimmering with hazy color, 3,000 feet below. The sun blinked out behind a cloud strata, rays streaming downward in radiating shafts. It reappeared, dropped lower and disappeared once more. The frame of the "window" grew darker and darker, till it stood blackly silhouetted against the light yet present over the distant desert.

Dusk closed in. A gleam appeared here and there in the soft purple canopy of the sky. Nobody spoke, the colossal magnificence of the universe was playing on its vast stage—the end of the day was coming over the Chisos. The spirit of these mountains now seemed to hover closely over us—a kindly, beneficent spirit, a sort of vast, encircling benediction that we were to remember at other times, looking back upon the magnificence of this unique and beautiful country of the Big Bend.

## IN THE NEWS



NAVY GETS THE BIRD—Alexander Sprunt, Jr., National Audubon Society lecturer and instructor in ornithology at the Audubon Camp of Texas, presents an original painting of a sanderling to Lieutenant A. R. Johnson, USN, skipper of the minesweeper, Sanderling, named for this little shorebird. (Official U. S. Navy photograph.)

Reprinted from *Charleston (S.C.) News and Courier*

### Seven Minesweepers get Bird Paintings

Charleston, S.C., Dec. 12, 1949—

Seven "mighty mite" auxiliary minesweepers of the Atlantic fleet mine force were presented paintings and prints of birds for which they were named at ceremonies here on Friday. Alexander Sprunt, Jr., southern representative of the National Audubon Society made the presentation to command-

ing officers of the wooden-hull fighting ships. The pictures, valued at more than \$1,000, will be displayed in ward rooms of the minesweepers Grackle, Grouse, Plover, Goldfinch, Grosbeak, Sanderling and Linnet. Three other "mighty mites," out of port last week, will be given their pictures later. The ships are the Hawk, Verdin and Albatross.

Mr. Sprunt, a former staff member of the Charleston museum, and one of the authors of "South Carolina Bird Life," recently succeeded in obtaining reproductions of bird paintings for all the mine force auxiliary minesweepers with the exception of the Sanderling, Verdin and Goldfinch.

The collection was completed by John Henry Dick, Charleston artist, who volunteered to supply original paintings of the three remaining birds.

Among the reproductions are prints from paintings by world famous bird artists, Audubon, Peterson, and Gould.

# NEWS

# OF WILDLIFE AND CONSERVATION

By John H. Baker

President of the National Audubon Society



## Rockefeller Is Patron Of Parks

JOHN D. ROCKEFELLER, JR., is one of the greatest conservationists of all time. Let's look at the record. Last December he gave to the people of the United States 33,562 acres of land in Grand Teton National Park and the adjoining Jackson Hole National Monument; lands that he had acquired and maintained over a period of a quarter of a century at a total cost of more than \$2,000,000 in order to preserve unspoiled the beauty of one of the most spectacular regions in North America. He contributed \$5,000,000 to meet one-half of the estimated cost of acquiring lands for the Great Smoky Mountains National Park in North Carolina and Tennessee. To Acadia National Park in Maine he has contributed some \$3,000,000 in lands, roads and improvements. To save a magnificent stand of sugar pines in Yosemite National Park, California, he has donated approximately \$1,650,000 in lands and cash. He has also contributed to Yellowstone National Park, Crater Lake National Park, Mesa Verde National Park and Shenandoah National Park, and through the Save-the-Redwoods League gave over \$2,000,000 to the State of California to preserve the cathedral-like grove of coast redwood giants in Bull Creek Flat and other groves.

It is an unfortunate trait of human nature that when a man gives generously of his wealth to promote the public interest there are those small souls who arise to impugn his motives, abuse and malign him. Mr. Rockefeller has not been free from such maltreatment at the hands of politically-minded fellow-citizens. Without Mr. Rockefeller's aid, our national park system would not be what it is today. We have a hunch that nothing he has done in his busy life has given him more durable satisfaction than these gifts.

## Earmarked Funds For Wildlife?

MANY readers know that through the funds made available by the Pittman-Robertson Act of 1937, earmarking the taxes on sporting arms and ammunition, much that is constructive has been done, through cooperative federal and state efforts, to improve habitat conditions for game and obtain needed information as to its requirements. For some ten years effort has been made to enact legislation that would earmark taxes on fishing rods, creels, reels, artificial lures, baits and flies for the financing of a comparable nationwide program designed to improve habitat for sport fishes and obtain needed information as to their requirements. There is no doubt about the need of such habitat improvement and information; the urgency of the problem is indicated by the fact that there are now some 15½ million anglers who purchase state fishing licenses annually. This is nearly three times the number that bought such licenses 15 years ago.

The Dingell bill, for that purpose, was passed by the 81st Congress. Greatly to the disappointment of sport fishermen, it was vetoed by President Truman, who stated, among other things, "It is believed that the 'earmarking' of federal tax revenues, as provided in the bill, constitutes undesirable tax and fiscal policy. The 'earmarking' of tax collections amounts to preferential treatment of certain taxpayers and tends to weaken effective budgetary control of expenditures. Fishing equipment is but one of thousands of articles subject to federal excise tax, the revenues from which are now deposited in the general funds of the United States and available for general governmental purposes. If the revenue from the sale of fishing equipment is to be diverted to the particular benefit of those who have paid the

tax, similar demands can be made on behalf of other industries and activities affected by the tax. The government's need for unrestricted funds does not permit such diversion of tax revenues. . . . Prudent expenditure policy would indicate that the amount of funds to be expended should be subject to continuous budgetary and legislative appraisal. . . . I have noted that the bill follows the undesirable precedent created by the Act of September 2, 1937, which earmarked taxes on firearms, shells and cartridges for wildlife restoration purposes. The present bill, however, is more objectionable than its predecessor in several respects. Unlike the 1937 Act, it is retroactive in application. Moreover, the 1937 Act earmarked revenues from a single taxing provision, whereas the present bill applies to only one among many items covered by the same taxing provision. Its enactment, therefore, would give particular impetus to the extension of the same unsound principle to other items in the same tax category, notably other types of sporting goods."

The first bill introduced in the 82nd Congress was H.R. 6533, a revision of the Dingell bill. A retroactive feature has been eliminated and an authorized appropriation of \$2,000,000 is provided for, to carry out the objective of the bill for the fiscal year 1950-51. The revised bill, however, does not meet the major objection expressed by the President in his veto of its predecessor.

We are inclined to think that there is a great deal of merit in quoted views of the President. The time-honored argument to the contrary is to the effect that, years ago, when the need for funds to attain the desirable objectives was apparent, it was found practically impossible to get legislatures to appropriate adequate funds. Resort was therefore had to the enactment of legislation earmarking license monies and taxes on sporting arms and ammunition. With the tremendous growth of public understanding in our generation of the vital relation to human welfare of intelligent treatment and wise use of our natural resources, it seems possible that we may have arrived at the point where legislatures would appropriate out of general funds reasonably adequate sums for wildlife conservation purposes. It would be a great advance to get away from the hoary contention that those who buy hunting and fishing licenses, and pay the taxes on sporting arms, ammunition

and fishing-tackle, should have any more say as to the character of legislation and regulations affecting the taking of wildlife than their pro-rata voice in relation to the total number of voting citizens. The existence of that proprietary feeling has, in our opinion, been one of the primary obstacles to the furtherance of wise conservation of our wildlife resources. The purchase of a license is nothing more than the purchase of a privilege worth, in fact, far more than is paid for it. The tax is just another excise tax.

### Airplanes To Stay Out of Wilderness

A NEW policy of outstanding importance was announced by the President of the United States in December, when, by Executive Order, he established an airspace reservation over certain areas of the Superior National Forest in Minnesota, prescribing a minimum altitude for aircraft of 4,000 feet above sea level over the three designated "roadless areas" within that forest: this is the equivalent of at least 2,000 feet above the ground. There are two particular aspects of airplane use in relation to wilderness areas that have led to the adoption of this policy. One is that, though the plane itself does not damage the resources of the area, its use makes it much too easy, as demonstrated again and again, for men to violate wildlife protective laws and regulations and get away with it. The other is that as long as the plane, or rather its propellers and engines, are noisy, its presence destroys the solitude of the wilderness, which means so much to the great bulk of the people seeking recreation there and at least temporary release from the stresses and strains of modern living. This Order establishes an invaluable precedent and we look forward to the day, we hope very soon, when minimum altitude regulations for planes will be established over our national parks and national monuments, with complete ban on landing, other than in emergencies, within their boundaries. When, in the distant future, planes become noiseless and reasonable means be found to prevent violations by men landing from planes within wilderness areas, national parks and national monuments, it will be time enough, it seems to us, to consider relaxation of the ban.

### **Drainage Plans Are Threat To Waterfowl**

**T**HERE is a new rash of projects for the drainage of our coastal marshes. The Amarillo office of the Bureau of Reclamation has a plan to delineate and classify the coastal lands of Texas needing irrigation or drainage, or both. Recent waterfowl banding return analysis has reaffirmed that the Gulf coastal region is the most important waterfowl wintering area on this continent. To our sorrow, we learn of the plan of the Southeastern Tidewater Soil Conservation Experiment Station for drainage of the coastal lands on the Georgia coast. The project supervisor is quoted as stating that there are 3,000,000 to 4,000,000 acres of "gumbo lands" along the southeastern coast and 1,500,000 to 2,000,000 acres of fresh-water tidal marshland, the soils of both of which are well-suited to pasture grasses and vegetable crops when the excess water condition is controlled. Apparently it is intended to eventually "reclaim" such lands from Virginia to Florida.

Such projects would destroy favorable habitat of valuable wildlife resources. As long as our federal government finds it necessary to subsidize present agricultural production to the extent of more than one billion dollars a year, it seems to us that the development of additional land for agricultural purposes is entirely unwarranted. Too many of our people seem obsessed with the idea of creating more products where over-production already exists and perhaps in finding ways of spending money simply for the sake of spending it.

### **Oil and Condors Don't Mix**

**P**ROTECTION and restoration of any species of animal threatened with extinction is fraught with innumerable obstacles. The bulk of the California condors, America's third rarest species of bird, nests in a rather small area within the boundaries of the Los Padres National Forest in California. Several years ago, by Executive Order of the Secretary of Agriculture, a portion of that forest, including the main nesting area of the condors, was set aside as a refuge. There have nevertheless been numerous disturbances of nesting condors, sometimes with very unfortunate results. Adult

condors, witnessing one or more persons as far away as half a mile from their nests, have been known to leave their young to starve. There are existing grazing permits and mineral leases on part of the area which must be allowed to run their course. State game wardens have legal right to access. The U. S. Forest Service has wisely tightened up, during the past year, on its permit policy and now limits permits to enter the area to those above enumerated.

It has seemed to the Forest Service and to the Society, which, in cooperation with the University of California, has for more than ten years been engaged in a research project designed to find ways and means of better protecting and restoring the condors, that every means should be used to minimize possible disturbance of the birds in their principal nesting area for at least a reasonable period of years, during which time it might be demonstrated that such protection would pay dividends in more condors. To that end the Forest Service and the Society have joined in seeking issuance of an order by the Secretary of the Interior withdrawing from entry, under the mineral laws, a few sections of land within the boundaries of the refuge in the Los Padres National Forest. By the time you read this the decision will have been made as to whether such order is to be put into effect now. The minute it became known that such an order was contemplated, people having personal stakes in existing mineral leases in the area, or wanting to make application for new leases, or to buy and sell leases, began protesting and at this writing are bringing political pressure—this in spite of the fact that the lands involved are not considered officially to be within the known geologic structure of a producing oil or gas field. In other words, the interested parties are simply speculating. There is, at the present time, no shortage of oil, nor is there any near-term prospect of such shortage, barring war.

### **Alaska Pays Bounties On Bald Eagles**

**W**HEN the Congress, several years ago, enacted legislation furnishing federal protection to the bald eagle as the emblem of the United States, Alaska was specifically exempted from its application. Alaska is the last stronghold of these eagles in substantial numbers. From



time to time the Alaskan Legislature has provided for the payment of bounties on bald eagles, but in recent years, though the bounties were authorized, no funds were provided for their payment. Within the year, however, such funds have been provided and between March 23 and November 4 of 1949 the Territory of Alaska paid \$4,304 in bounties on 2,152 eagles.

The bald eagle does no significant damage to the salmon industry. It is unrealistic to assume that the limited number of eagles along the coastal streams of Alaska have had any effect upon the hordes of salmon that migrate into the streams in good years. The bald eagle is not a menace to fox farming, nor is it a significant factor in limiting game populations. In this country it has been demonstrated that tourists will travel long distances to see eagles. If the beauty of an eagle in flight cannot justify its existence, perhaps we should consider that, with the growth of travel to Alaska, increasing numbers of tourists will scan the shorelines for a glimpse of our national emblem. A bald eagle soaring majestically against a blue sky has economic value that is too seldom appreciated; a shot-torn carcass of an eagle has none.

We hope that the people of the United States and Alaska will never have to be represented by an emblem that no longer exists as a living species, because of our shortsighted and unwarranted persecution of the bird that proudly appears upon the Great Seal of the United States.

The Society supports and urges the enactment of either H.R. 5507 or H.R. 5629, identical bills now under consideration by the

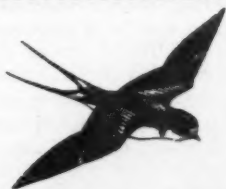
Congress, which would extend protection of the bald eagle to the Territory of Alaska.

#### Peterson Heads For Sweden

THE 10th International Ornithological Congress will be held in Sweden next June. Your Society has appointed Mr. Roger T. Peterson as its official delegate to that Congress. We are fortunate in having as our representative a former member of our staff who is such a distinguished ornithologist and painter.

#### Plan Now To Attend 1950 Camp

ALL four of our summer camps for adult leaders in Maine, Connecticut, Texas and California will operate in the summer of 1950; Maine for the 12th season, Connecticut for the 7th, and Texas and California for the 3rd. It is anticipated that some 850 persons will graduate from these four camps next summer, each with a will to further, constructively, conservation education and practice in his own community. Through them it is reasonable to expect that the interest of some 30,000 young people and adults will be stimulated in the conservation of natural resources and the relation to human welfare of their intelligent treatment and wise use. There will be new directors of the Texas and California camps—Dr. Charles LaMotte, Professor of Botany, Department of Biology, Texas A & M College, College Station, Texas, and Dr. Lloyd G. Ingles, Professor of Zoology, Fresno State College, California.



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# Audubon Guide To Bird Attracting

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## Housing for Birds

**Pruning campaigns in the woodland make critical problems for birds.**

Purple martins have largely forsaken hollow trees for homes that are "man-made." Photograph by Allan D. Craickshank.



By John V. Dennis

THERE is no doubt that hole-nesting birds need birdhouses and their plight reminds us of our own housing difficulties. Undoubtedly, the man with an ax or saw, bent upon eradicating dead limbs and dead trees, is primarily responsible for nesting site shortages. Another is stiffer competition for native birds since the introduction of the hole-nesting English sparrow and starling. We not only need to supply birds with more houses but these should be *especially built and located to attract the desired kinds*. A point to remember is that starlings cannot enter a hole as small as 1½ inches in diameter, but bluebirds and swallows can. Likewise an English sparrow cannot enter a hole one inch in diameter, but chickadees and house wrens can.

Most ducks nest on the ground, but not so with the beautiful wood duck which chooses cavities in large trees. Lumbering has reduced their potential nesting sites in many places, and in New England, the shortage became critical after the devastating hurricane of 1938 removed so many trees. Recently much good work has been done in providing birdhouses\* for them and they have responded marvelously.

The purple martin and tree swallow have come to rely so much upon artificial nesting boxes that the availability of them pretty much determines their local abundance. Martins have almost completely forsaken dead trees in preference for gourds and the many compartment houses man has erected for them.

One way to attract nesting birds is to make nesting material\*\* available. Many birds seem to have difficulty in finding sufficient quantities of soft material to line their nests and, for most of them, the nesting season has passed before nature makes available milkweed down and other silky fibers. Lacking enough vegetable material, birds use feathers and fur if these can be obtained. Blue jays and tufted titmice do not hesitate to swoop down and snatch fur from the backs of outraged dogs, cats, squirrels and other animals. Titmice have even snatched hair from the heads of humans. On the Mississippi Delta I found that most nests of the eastern kingbird contained rabbit fur. Tree swallows

\* See "Nesting Box Campaign Helps Wood Ducks," Audubon Magazine, January-February 1950, page 20.

\*\* See "Bird Houses," by Roger Tory Peterson, Circular No. 29, (Price 10¢) National Audubon Society, 1000 Fifth Avenue, New York 28, N. Y.

like pure white feathers, and a very resourceful house wren at Moose Hill Sanctuary in Massachusetts was seen taking feathers from stuffed birds in the workshop museum which opened partially to the outside. As a result its nest was lined with feathers from hawks, owls and a Reeves's pheasant. Cotton, yarn, Spanish moss, feathers and pieces of string, which we place where birds can find it,\* will be readily utilized. Never should food or nesting material be placed in a birdhouse, as children sometimes suggest.

Children can be of great help in supplying birdhouses. Getting youngsters interested in building them and then staging a contest for prizes is a lot of fun, but the judge will have some difficult decisions to make. I especially remember a community-wide contest where I was one of three judges. There were so many houses which showed almost professional craftsmanship that we were hard put to decide which should receive the awards. We had awarded a first prize to one boy for a flawless house when we discovered that his brother had one in the contest just like it in every detail. We did some quick thinking and offered another first prize. A few houses looked suspiciously "factory-made," while one, outwardly flawless, showed signs of having once been occupied by birds.

Whether we intend to put up birdhouses of our own or plan to conduct a building contest among children, we should have in mind the types of birds we wish to attract. For example, we won't go far wrong if we build bluebird houses. Bluebirds occur widely in both our eastern and western states, and it is only in cities

\* See "The Audubon Guide to Bird Attracting," edited by John H. Baker, Halcyon House, New York, 1943. This useful reference, now out of print, may be found in local libraries.



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that we have little hope of having them. Almost as widely distributed as the bluebird is the house wren. Only in the deep South is it absent as a breeding bird. It is found more and more in suburban areas, which suggests that the English sparrow no longer gives it the competition it used to. The tree swallow is a bird with a similar breeding range, but more exacting habitat requirements. As it catches much of its food on the wing, it needs plenty of space to cruise over. It is particularly fond of flying over water. Tree swallows in my neighborhood in Massachusetts used to disappear in wet weather, but I could always find swallows some distance away flying over a lake. Apparently flying insects can usually be found over bodies of water even when they are absent elsewhere.

Another desirable swallow is the purple martin. Although it breeds as far north as Nova Scotia, there are many gaps in its range, and even where it is most plentiful in the South, martins are not always easy to attract. Even in Virginia I have had no success in getting martins to come to the houses I put up for them.

Having become acquainted with potential box-nesting birds in our neighborhood and made our decision as to which ones we will try to attract, our next step will be to obtain plans, or blueprints. Much experimenting has gone into building birdhouses so that we now know the ideal dimensions\* for each species and should follow them carefully.

\* See "The Audubon Guide to Bird Attracting," edited by John H. Baker.

One entrance hole and *no windows* is usually standard for all birdhouses. An exception is the purple martin which likes to live in a veritable apartment house which may have windows for ventilation.

In my experience, wrens usually prefer houses especially built for them, but if these are not available, they may occupy one built for some other species. An ideal situation for a house



Children can be of great help in supplying birdhouses. It pays to use good lumber, but we may find satisfactory odds and ends from woodworking establishments and slab wood that is usually thrown away. Photograph (above) by Hal H. Harrison, (below) by Allan D. Cruickshank.

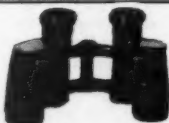
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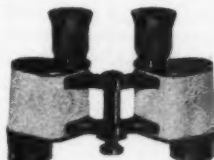
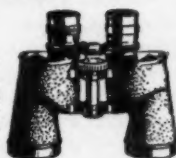
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wren is a deep cavity with a small entrance hole at the top. They have been known to nest also in rusty tin cans, old shoes and even in a kingfisher's burrow. Other birds are not so adaptable, and will generally accept only birdhouses built to their tastes.

A problem may be that of finding suitable, yet inexpensive building materials. It pays to use good lumber. White and yellow pine, and plywood, if thick enough, are excellent if these woods can be afforded. Thin wood splits easily while being worked upon, and may not adequately protect birds from extremes in weather once it is shaped into a house.

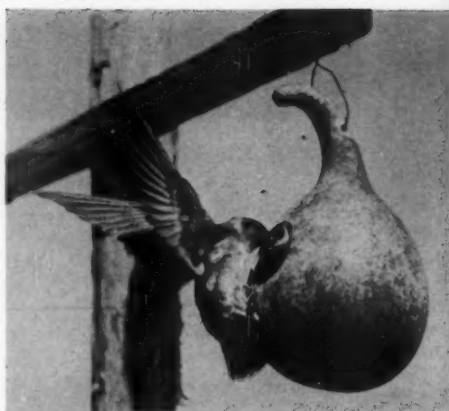
Often we can find good building materials which will cost us nothing. Odds and ends from woodworking establishments are sometimes thrown away, also waste slab wood from sawmills—the rounded outside portion of trees to which the bark is still adhering. It will do no harm to let children practice with this wood, and they may build some very fine rustic houses with it. Even if we have the best of lumber available, it is a good idea to obtain some slab wood for trimming.

Never use tin cans for birdhouses. Any metal container will become very hot in sunlight thus subjecting young birds to intolerable heat, however, sturdy wooden ammunition boxes, a surplus war product, are suitable for wood duck nesting houses and, for these birds, should always be placed on posts over water.

I always give children detailed instructions as to the best place to put a birdhouse, knowing that at an early age I took a number of houses I had built and nailed them to trunks and branches of trees in the midst of a wooded area. As far as I know, none were occupied by birds although various furry animals used them as I could tell by tooth and claw marks and the nest of leaves inside. Later, after learning that nesting birds like open air and plenty of sunlight, I nailed my birdhouses to posts directly in the sun and the birds occupied them.

Of lesser importance is the matter of how far from the ground we will place our houses. Among hole-nesting birds there does not seem to be any decided preferences. Chickadees may nest in dead stubs only three feet from the ground or much higher up. I have found downy woodpeckers nesting in fence posts although they usually seek a height of around 30 feet.

In determining height we should consider our own convenience first. We are the ones who are going to be lugging step ladders around on hot summer days to see that all is going well, or perhaps we will be banding young birds and



Indians hung hollowed gourds above their teepees to attract martins, a practice still followed in our southern states. Photograph by Samuel A. Grimes

later in the season removing the old nests. The easier it is for us, the less likely that we will neglect these chores. On the other hand, we shouldn't place the birdhouses too close to the ground as this will make the birds more vulnerable to cats and other ground-dwelling predators.

In our planning, we should take into consideration the territorial habits of our tenants. It is well known that most birds select a breeding territory which they jealously guard against bird intruders of the same species. The male in singing from a prominent perch, announces his claim to a particular territory.

There is a good deal of variation in the territorial requirements of hole-nesting species. English sparrows and purple martins nest in colonies made up of their own species. Tree swallows nest apart from each other unless abundance of food and nesting sites permit them to live in colonies. The other common hole-nesting birds—chickadees, house wrens and crested flycatchers—have definite territories which they vigorously defend. Odum\* in his study of the black-capped chickadee in New York State found that nesting territories for this species varied from 8.4 acres to 17.1 acres. For house wrens it is much less. At Moose Hill Sanctuary, Massachusetts, we had up to five pairs nesting in an area of about two acres immediately adjacent to the sanctuary headquarters.

To prevent endless squabbling among our tenants and to insure a high rate of birdhouse occupancy, we should place houses at reasonable

\* "The Annual Cycle of the Black-capped Chickadee," Eugene P. Odum, *The Auk*, 1941, Vol. 58, p. 329.

distances from one another. We can have a large number of birds nesting about our homes and this will depend, not only upon nesting facilities, but upon a plentiful supply of food and water and a good variety of trees and shrubbery bordering open areas. Competition and aggressiveness between birds seems to diminish when their needs are properly met.

Once we have birds nesting in our houses, we may well feel entitled to relax and let the birds manage their own affairs. Unfortunately there is a very real and ever threatening danger to them in small parasites, which attach themselves to a bird's body and sap its energy. Usually, the common lice and mites are not serious pests, but the blood-sucking flies (*Protocalliphora*) have caused heavy mortality among young birds, particularly bluebirds.

Dark damp places are most favorable for the larvae of this fly, so that birdhouses are sometimes heavily infested. The feet, eyelids and crowns of the young birds are attacked. If the young survive, they may prematurely leave the nest.\*

Houses should be provided with doors or panels which will permit inspection. If the young are badly infested, the old nest should be removed and the interior of the house, as well as the birds, dusted with a safe insecticide, taking care not to get the insecticide in the bird's eye or mouth.

After the young birds have left, whether or not the houses are infested, we should remove the nests and burn them. Just dropping the nest to the ground will not necessarily eliminate the parasites; it may even assist certain stages in their development. The interior of the birdhouse should also be swabbed out with a household disinfectant.

Wasps also build their nests in birdhouses. Although some birds eat members of the hymenoptera family, the hole-nesting kinds seem unable to prevent stinging insects from invading their quarters. I am not sure that wasps actually take over a house already occupied by birds, but I do know that about 30 per cent of the houses at Moose Hill Sanctuary in Massachusetts were occupied by wasps at one time last summer. Once the wasps get established, the houses are not used by birds.

When I became aware of the wasp problem, I immediately went to work with an aerosol

bomb and sprayed the interiors of the affected houses. The wasps were so anxious to get away that I ran no risk of being stung. This proved

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to be a satisfactory solution to the problem. Also I obtained large numbers of succulent wasp larvae to feed the orphaned birds I was raising.

Like all birds the hole-nesting ones are subject to molestation by ground-dwelling predators. I know of no better way to safeguard them than to plant rambler roses at the base of the poles supporting the houses. This is an effective protection from cats and, I suspect, from

snakes. The multiflora rose, so much recommended as cover and a food source for wildlife, might well serve this purpose too.

The most important thing for the present is to have our houses up and ready this spring. Among the earliest returning migrants are bluebirds, martins and tree swallows which begin looking for nesting sites as soon as they arrive. Let us provide them with a warm welcome!

• • •

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#### HOW LONG IS WINTER?—Continued from Page 83

singing their soft, sweet *phree-beee*, *phree-beee*, after their tight little winter staccato of *chickadee-dee*. That winter sound is only for six weeks or so. I grant you it signifies wintertime. But now, even in mid-February, there is this long-drawn *phree-beee*, *phree-beee-eee*, as sweet and soft as new buds or the airs of April. This is a *wakening* song. Can we say it is winter, with this in the air? Of course not.

For a few brief weeks, in winter, the crows sail silent and heavy in a gray, cold air. But now, as February goes along, what is all this cawing and anticking and corvine uproar? Why, it is *courting* time! Nor is it courting time only for the crows, raising their delighted hubbub of love and competition up there in the hemlock grove. There is a hearty chirruping from the direction of the old barn door. I go over there—(needing hip-boots, perhaps, to get through the snow, but what of that?)—and I see a scraggle of straw showing under the old door cap. The English sparrows are nesting! Do you tell me that the thermometer is sliding down toward zero again? Let it; let it. There is nothing "dead" in this cold day. Speckled eggs are about to be laid. A new generation of dusty-colored little birds is about to come into being. Winter? Preposterous. The sparrows are in their springtime.

And so now it is March; and what wings are these astir in the snow-patchy woods? This is a mourning-cloak butterfly. And this little

thump against the windowpane on a thawing evening . . . this is the first of the noctuids, the "millers" that will throng summer's evening lamps. You call *this* winter? The mathematical expert, or whoever it was who devised the calendar, did not have his earth-wits about him. He cannot have heard these returned kill-deers, now, crying and running over the frozen furrows. He cannot have had an ear tuned to this burst of frog-song from the marsh. It is snowing, is it? Does a bit of snow make a season? What are these things borne along with the flakes and the wind? Behold, these are robins, and bluebirds; and this little piping music, audible under the roar of the wind, is the two-noted tune-up of the song sparrows. Nature is awakened to a tumult now, and no snow or cold can make things drowse again. On the twenty-first, even by the calendar, it is spring now for sure. By the calendar of earth—by the calendar of things awakening, things being born, things trying their wings, things renewed and restored and jubilating—it has been spring for weeks.

How long is a winter? As long as we please. Shut nature out, and curl up in a forlorn huddle, and turn inward into ourselves and get set for suffering—and winter is a long, long time. Let nature into our consciousness, and go out to nature, and follow the living calendar instead of the printed one, and winter, I say (even though I write it in a sleetstorm) lasts only about six weeks.



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# Book Notes

By John K. Terres

## A SAND COUNTY ALMANAC

By Aldo Leopold, Oxford University Press, New York, 1949.  $5\frac{3}{4} \times 8\frac{1}{2}$  in., 226 pp. Illus. by Charles W. Schwarz. \$3.50.

Aldo Leopold, Professor of Wildlife Management at the University of Wisconsin, a former director of the National Audubon Society and a contributing editor to *Audubon Magazine*, died of a heart attack in April 1948. In his death, wildlife conservation lost one of its most brilliant proponents, a man whom conservationists mourn as being well-nigh irreplaceable. Master of an eloquent, impassioned prose, with the insight and deep wisdom of a prophet, Leopold, the writer and scientist, not only helped found the science of wildlife management in America, but conceived a conservation philosophy, which, if generally taught, may offer the only permanent solution to preserving our wildlife resources.

All the humor, wisdom, and maturity of Leopold's published works are in this book—his philosophical crusade against politics in conservation, his constant warfare against the misuse of our natural resources, which, a quarter of a century ago, influenced the U. S. Forest Service to designate 14,000,000 acres in our national forests as inviolate "wilderness areas."

Divided into three parts, the first, "Sand County Almanac," is a group of essays for each month of the year telling what the author and his family saw and did at their week-end refuge—a shack on a "sand farm" of Wisconsin. Arranged seasonally they give the book its title.

Part II, "Sketches Here and There," recounts some of the episodes in the author's life during 40 years spent in wilderness areas from Canada to Mexico. In "The Upshot,"

Part III, Professor Leopold sets forth his philosophic questions about conservation and how we may achieve it.

Leopold was one of the finest writers of our times and has written a book that will undoubtedly be quoted for a long time to come. All of his finest essays, undoubtedly his greatest accomplishment, are included in a volume that everyone interested in literature and conservation will want on his book shelf.

## EXPLORING OUR NATIONAL PARKS AND MONUMENTS

By Devereux Butcher, Houghton-Mifflin Company, Boston, 1949.  $6\frac{3}{4} \times 9\frac{1}{2}$  in., 224 pp. Illus. with photographs. Index and bibliography. New revised edition. \$3.50.

This beautiful book has a lot of information packed between its covers. The author, executive secretary, National Parks Association, and editor of *National Parks Magazine*, has had a long and useful experience in the National Park Service. From the introduction we learn that Yellowstone National Park, our first, was established in 1872 and that our great parks, built up since then, are to be preserved for all time. No logging, mining, grazing, power developments (dams), and no open season for killing wildlife are allowed within the parks. The book tells when the National Park Service was created, how national park lands are acquired, the differences between national parks and national monuments, and, most important, of the dangers from commercial interests that constantly threaten to exploit our 28 national parks and 39 national monuments. Each park and monument, illustrated with superb photographs, is presented in alphabetical order, with a page or two of text telling when they were established, size, unusual features, plant and animal life, visitors' accommodations, and much other useful information.

## THE AWL-BIRDS

By J. K. Stanford, The Devin-Adair Company, New York, 1949.  $6\frac{1}{4} \times 9\frac{1}{4}$  in., 90 pp., with an introduction by Helen G. Cruickshank. Illus. with line drawings. \$2.00.

The author, an English ornithologist, has written a fictional story based upon the return of the avocet (locally called awl-bird) to breed in England after an absence of 100 years. Derick Gloyne returns from the recent war and buys,



"sight unseen," Bledgrave Hall, a country estate that once belonged to his cousin, a place Gloyne had visited as a boy 20 years before, and had never forgotten. He finds the countryside as he remembered it, but the great house and outbuildings are reduced to broken walls. Then one day in spring, while he is rebuilding

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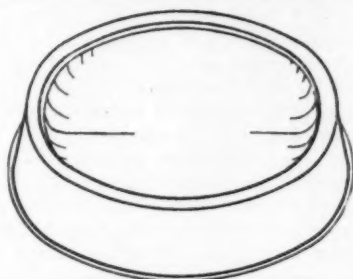
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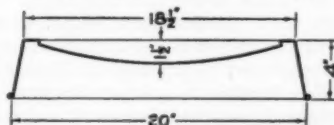
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Bledgrave Hall, he discovers three awl-birds (avocets) in his marsh. These birds nested in colonies in Holland 70 miles away and, like the godwit and ruff, black tern and marsh harrier, had been banished by man from England for all time. To Gloyne's astonishment and deep gratification, the awl-birds stayed on and nested. How Gloyne watched over the nesting birds and tried to protect them from the wily scheming of an egg collector, makes the story.

#### A CONSERVATION HANDBOOK

By Samuel Ordway, Jr., *The Conservation Foundation, New York City, 1949. 4½ x 7¼ in., 76 pp. \$1.00.*

As an outgrowth of its conservation work, the New York Zoological Society in 1948 established The Conservation Foundation, of which Fairfield Osborn is president, and Samuel Ordway, Jr. is vice-president. This relatively new conservation organization, sponsoring wildlife research work and disseminating research facts, has launched to a good start with Mr. Ordway's fine little handbook written as a guide for garden clubs, bird clubs, and other organizations interested in conserving and perpetuating our natural resources.

The book proceeds from a general discussion of conservation to the nature of renewable resources, approaches to conservation practice, land management, forest management, range management, water and wildlife management, state and national parks, monuments and wilderness areas. An excellent guide, including a glossary and index, that should clear up any vagueness about various kinds of wildlife and other natural resources, also the meaning of conservation and its functions, terms, and practices.

#### THE ART OF BIRD PHOTOGRAPHY

By Eric Hosking and Cyril Newberry, *Country Life Ltd., London; Transatlantic Arts, Inc., New York, 1948. 5½ x 8¾ in., 103 pp. Illus. with photographs and sketches. Indexed. \$3.75.*

Two well-known English bird photographers have collaborated to produce this beautifully illustrated and useful book. The authors of five previous volumes on birds, they have written this one principally to offer practical suggestions on bird photography,

although there are excellent chapters on photographing trees, insects and wildflowers. Other interesting sections are on photographic equipment, blinds, flash photography, flight pictures and on motion pictures of birds, the most difficult branch of bird photography. An indispensable reference for the bird photographer and of interest to all who enjoy birds.

#### PARROTS AT AUDUBON HOUSE?

Evidence that a strange rumor is at large in south Florida is indicated by this letter from Coral Gables received at Audubon House: Gentlemen: I am informed that sometimes people will their parrots to the Audubon Society, and that they in turn are given to people who are on a waiting list. I should like very much to have a parrot. Could you put my name down on the waiting list?  
—S.L.

We were sorry to disappoint our correspondent, but there is no record of anyone ever making a bequest of a parrot to the National



Audubon Society. Fortunately, however, many persons who want to help protect our native wildlife have remembered the Society in their wills through bequests of funds or property. Over a period of 45 years our endowment fund has steadily increased because of the generosity of those who loved the out-of-doors. The income from endowments now supports a great many of the vital conservation projects of the National Audubon Society.

The Society is today the largest conservation organization in the world. Our plans to cope with the problem of natural resource depletion through Audubon Nature Camps, junior educational work, Audubon sanctuaries, and an expanded program of acquainting people with our Audubon philosophy through lectures, magazines, newspapers and radio are hindered by lack of funds to do the kind of job that must be done if our natural heritage is to be conserved.

If you believe in what the National Audubon Society is doing, may we suggest that you do one of two things: provide for a "living memorial" through an immediate gift which can go to work at once in accelerating the Audubon program; or, make proper provision to remember the Society in your will. The following is the usual wording in making bequests:

"I hereby give, devise and bequeath to the NATIONAL AUDUBON SOCIETY, in the City of New York, in the State of New York, the sum of ..... dollars (or otherwise describe the gift), to be used for the general purposes of said Society."

### Sunflower Seeds Vanish As Evening Grosbeaks Dine

Evening grosbeaks are "expensive" birds. A New Jersey woman reports that a flock of them frequenting her feeding station is consuming 25 pounds of sunflower seeds a day and that the end is not in sight.

Northern New Jersey apparently is being favored with the largest flocks of evening grosbeaks occurring in the northeastern states. A survey of an area two miles long by one-half mile wide in the vicinity of Ramsey, New Jersey, taken from 7:00 to 7:30 on several successive mornings in early February, revealed 300 evening grosbeaks. By including a slightly larger area about 500 of them were tallied. Mr. C. K. Nichols, regional editor of *Audubon Field Notes*, believes that the influx of these birds into the northeastern states is the heaviest in history.

Evening grosbeaks are erratic in their wanderings and some winters few, if any, are seen, Mr. Nichols states. He believes that there may be a fairly large unknown breeding population of the birds in Ontario and Quebec. Their breeding range is increasing. They are nesting farther south in Canada than formerly, and a few nests have been

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reported in the Adirondacks. Their major breeding range is in the coniferous belt of northwestern Canada, east to northern Michigan. Some stay on their nesting grounds the year around, others wander in the winter to New England and south to Maryland, Kentucky and Missouri, and lowlands in the West.

The dusky yellowish color and big conical bill make the evening grosbeak easily distinguishable. It has the characteristic undulating flight of the finch family and its white wing patches can be seen at a considerable distance.

Richard Pough, Curator of Conservation, American Museum of Natural History, states that, like all northern finches, evening grosbeaks are strongly attracted by salt or salt-impregnated earth. In addition to sunflower seeds they are also partial to seeds of the box elder or ash-leaved maple. Drinking water at feeding stations seems to be well patronized by the grosbeaks. Pough believes that extensive artificial feeding of evening grosbeaks might largely free them from dependence on natural foods and possibly increase the population greatly in years to come.

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#### About the Authors

**Dr. William J. Hamilton, Jr.** (*Exploring the World of "Whistle Pig"*) is Professor of Zoology in the newly-created Conservation Department at Cornell University, Ithaca, New York. Although making many of his significant researches in the central New York State region, including those for his famed monographs of the woodchuck and field mouse, Professor Hamilton has studied birds, mammals, reptiles and amphibians throughout the eastern United States and the American tropics, and has written two books, "American Mammals" and "The Mammals of the Eastern United States," besides co-authoring "Conservation in the United States." A specialist in the food habits of North American vertebrates and author of more than 150 articles, notes and reviews, mostly in scientific journals, this is Professor Hamilton's first appearance in *Audubon Magazine*.

**Edward A. Armstrong** (*Songs From the Sky*), by profession an English clergyman, is best known to scientists for his book, "Bird Display and Bird Behaviour," a standard reference and a classic of its kind. Reverend Armstrong has also written four other books, "The Way Birds Live," "Shakespeare's Imagination," "Bird Life," and "Birds of the Grey Wind," the latter a semi-autobiography for which he was awarded the John Burroughs Medal in 1942, and a chapter of which was anthologized in William Beebe's "Book of Naturalists." This is Reverend Armstrong's first article for *Audubon Magazine*.

**Robert P. Allen** (*The Whooping Crane and Its Environment*) is well known to *Audubon Magazine* readers as a Research Associate of the National Audubon Society, author of "The Flame Birds," a book on his studies of the roseate spoonbill, and for his frequent articles in *Audubon Magazine* on both the spoonbill and the whooping crane. To "catch us up" on the progress of his whooping crane research, Bob writes:

"The preparation of the manuscript for the monograph of the whooping crane is virtually completed, with only such items as bibliography, index, introduction, etc., to be put into final form. . . .

"Since the Cooperative Whooping Crane Project was begun in 1945, the species has slowly improved, but it is by no means out of the woods. The average annual loss must be further reduced if the whooping crane population is to increase sufficiently to reach a point beyond immediate danger. While the U. S. Fish and Wildlife Service, various state authorities, and the Dominion Wildlife Service will continue to be directly responsible for protection, we must continue to help in every way possible, particularly in the important field of public information and education. The publication of reports in our research series does not bring an end to our interest and responsibilities in connection with the species involved. On the contrary, these reports summarize our research findings regarding the problem at hand and recommend the steps that must be taken, in our opinion, if these creatures are to be restored. They are springboards for future action."

#### LETTERS—Continued from Page 72

##### Yosemite Field School Opens

On June 25 the Yosemite Field School, Yosemite National Park, will start its 1950 sessions running through seven consecutive weeks. Founded in 1925, the National Park Service sponsored institution, limited to 20 students each summer, is one of the oldest in the United States offering specialized naturalist training. Those interested should write to Donald Edward McHenry, Director of the School and Park Naturalist of Yosemite National Park, California.

##### Birds Killed by Oil

May I bring to your attention the fact that a large number of water birds are being killed along our coast by oil slicks. On January 8, 1950,

several members of the Bedford Audubon Society and I found 25 badly oiled dovekeys and a razor-billed auk along a 2½ mile stretch of beach in the vicinity of Jones Beach State Park, Long Island, New York. The area we covered, extended from the Gilgo Life Guard Station to Cedar Beach. All of these birds were heavily coated with Bunker C fuel oil. Now if 26 birds can be picked up within three hours on such a short stretch of beach, the overall kill must have been very high. A newspaper report on January 9 revealed that dovekeys had also been found at Long Beach, Long Island. Other observers listed oiled birds on Massachusetts and New Jersey beaches. It seems imperative that we should realize the grave importance of such a high mortality. Aside from all other factors affecting bird protection, the dovekey is the stable

Turn to Page 136

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diet of the Greenland Eskimos, and if these birds are destroyed in such numbers, while wintering off our coast, the tribes of the far north may find themselves faced with a food shortage.

Many persons do not realize the effect of oil on the plumage of birds. If a bird is heavily oiled, the stickiness renders them flightless and they soon succumb due to swallowing the oil while trying to remove it from their feathers. Also, the dead air spaces of a bird's plumage act as an insulator to keep out the cold. Only a small amount of oil is necessary to stick the feathers together in such a manner as to disrupt the insulation effect. Death then results from contact with the icy water.

The insidious thing about an oil slick is that the birds do not get into it entirely by chance, but rather they are attracted to it by the calming effect that the oil has on the choppy seas. There are supposed to be laws regarding the dumping of oil at sea near land, but many sea birds winter many miles beyond the boundary of territorial waters. Could this be a matter for the United Nations?

According to an article in the February 1948 edition of *Popular Science Magazine* (page 119), "The United States Navy at Norfolk, Virginia, has developed a means of removing oil slicks.

A mixture of beach sand and carbon is sprayed on the oil. The carbon having an affinity for oil, but repelling water, absorbs the oily scum, which is then carried to the bottom by the weight of the sand. It is a very inexpensive process, and in the navy test, 6,000 sq. ft. were removed in four hours."

It would seem that this treatment might be conducted by the Coast Guard in cooperation with our Fish and Wildlife Service, whose duty it is to protect these birds, which are covered by the Migratory Bird Treaty Act of 1918. Sportsmen's organizations should also be interested in stopping oil pollution as many ducks and geese fall victims.

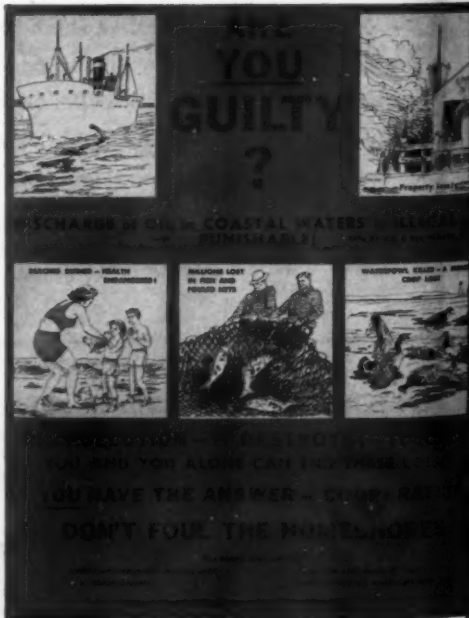
STANLEY OLIVER GRIERSON  
Bedford Audubon Society  
Katonah, New York

[EDITORS' NOTE: We have planned a full report of this problem in a future issue of AUDUBON MAGAZINE. For historical background and the experiences of other observers see, "A Seabird Tragedy," Bird-Lore, pp. 169-172, March-April 1930; "Oil on the Sea," AUDUBON MAGAZINE, pp. 86-90, March-April 1942; "Birds and Floating Oil," AUDUBON MAGAZINE, pp. 217-225, July-August 1942.]

## Audubon Society Cooperates in Anti-Oil-Pollution Program

*When a tanker went aground near Three Rivers, Quebec, more than 20,000 wild ducks died from the resulting saturation of their feathers with oil from the tanker's shattered hull. That was a drastic example of an all too common incident. Careless disposal of oil and sludge by ships' crews in coastal and inland waters is causing the death of hundreds of thousands of waterfowl and enormous numbers of fish each year.*

To combat this hazard, Charles M. Belt of Glen Cove and Southampton, Long Island, initiated the idea of a warning poster to be placed on all American ships, asking the cooperation of officers and crews. The preparation of the poster was financed by several conservation organizations, including the National Audubon Society. It is reproduced here. The illustrations were drawn by Lynn Bogue Hunt, noted naturalist-artist. The contribution of the National Audubon Society to this project was made possible by the generosity of Mr. Arthur D. Norcross.



# Audubon Screen Tours

**LECTURERS** here pictured play leading roles in the National Audubon Society's continent-wide Audubon Screen Tours program. Designed to further conservation education and appreciation of the out-of-doors, Audubon Screen Tours annually reach hundreds of thousands of people in more than 125 cities in the United States and Canada. All-color motion pictures, personally presented by leading lecturers, bring the beauties of America's out-of-doors indoors five evenings annually in participating cities. The Tours are sponsored locally by varied organizations with civic or educational interests. Cost of the series is modest, and it has proven a successful activity in small communities as well as large. Audubon Screen Tours are serviced by a growing staff of the nation's top-ranking naturalists, wildlife photographers and speakers. Sponsors receive helpful promotional assistance from the National Audubon Society. Community prestige, increased membership, civic influence and educational service await the local organization presenting Audubon Screen Tours. We invite your city's participation.



Muri Deusing\*



Arthur C. Twomey



W. J. Breckenridge



Lucie Palmer



Fran Hall



Harold M. Hill

## What People Say

"We want you to know that we appreciate the opportunity of cooperating with the National Audubon Society in making these splendid programs available to our teachers and many of our pupils in the Los Angeles city schools."

Burton M. Oliver  
Los Angeles City Board of Education

"The sponsors of Audubon Screen Tours in Hamilton are continually being embarrassed by not being able to satisfy the demand for tickets. We shall have to schedule the Tours on two successive nights."

L. Laking  
Royal Botanical Gardens  
Hamilton, Ontario, Canada

"We certainly have appreciated the caliber of the Screen Tours this year and their diversity. They have been a method of community service on a plane of high interest and quality."

Milton D. Thompson  
Minneapolis Science Museum Society

"The response to our Screen Tour series has been so whole-hearted in this region that we are going right ahead with plans for another big year with growing interest on every hand. Most tourists assure us that it is the finest thing ever to come to Daytona Beach—and we agree heartily!"

F. Beacom Rich  
Halifax River Bird Club  
Daytona Beach, Florida

"The present series has been well supported and enthusiastically received."

Mrs. J. N. Smith  
Parent-Teachers Association  
Laguna Beach, California

"Kansas City's final Screen Tour program for this season was attended by a record audience; people were turned away from the doors because of no more sitting or standing room, while 1100 luckier persons enjoyed the Tour."

Mary Louise Myers  
Burroughs Nature Club  
Kansas City, Missouri

\* Florida only in 1950-51.

Write

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